

# Apple-Works **F** o r u m

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**Support for AppleWorks and ///EZ Pieces Users**

## Printing Single Sheets of Paper and Control Panel Settings

Dear Cathleen,

I just discovered an answer to a problem I've experienced since I replaced the battery in my Apple IIGs.

I normally use single sheets of paper in my ImageWriter II. Before replacing the battery, I could feed single pages through the printer with no problem. However, when I printed a single page after replacing the battery, the "Select" light would go out on the printer and the "Press Space Bar to continue" screen would appear in AppleWorks. Pressing the Space Bar or the Escape Key had no effect. I had to either turn off the printer or press the printer's "Select" button to release the lock-up.

The source of this problem was the "Buffering" option on the Control Panel Printer Port settings. When re-setting the Control Panel options after replacing the battery, I left the Printer Port options at their default settings. Experimenting, I found that if I reset the Printer Port "Buffering" option from the default value of "No" to "Yes", I could avoid the AppleWorks lock-up.

The documentation for my Applied Engineering GS-Ram card advises me to leave the buffering set to "No", so I am waiting for other problems. However, I suspect I had it set to "Yes" before I lost all the Control Panel settings when the battery died.

The moral of this story is this: Make a record of all your Control Panel settings so you can reset them easily.

Bill Neef  
Grass Lake, Michigan

*[Ed: There are two useful messages here, and I want to add a third.]*

*First, as Mr. Neef suggests, it is a good idea to write down your Control Panel settings. It's only a matter of time before you will have to replace the battery in your IIGs; then you will need to reset the Control Panel. You don't have to write down all the settings; just record those that differ from the defaults. A check mark next to a setting indicates*

*it is the default setting; therefore it's easy to identify what you've changed.*

*Second, if you have printing problems, explore the impact of turning on the IIGs print buffer. You should normally leave the print buffer set to "No", but as Mr. Neef found, setting the buffer to "Yes" occasionally solves the problem. To change the setting, access the Desk Accessories by entering an Apple-Control-Escape, select Control Panel, and then select "Printer Port". The option to change the buffering appears on that menu.*

*Third, anyone who prints on single sheets of paper or envelopes should disable the out-of-paper sensor in the printer. With the out-of-paper sensor disabled, you will not have to reset the printer after you print each page.*

*The best way to manage the settings necessary to print on single sheets of paper is to add your printer to the AppleWorks Printer Menu a second time. Name that printer "Single Sheet" and change the "Stop at end of each page" setting to "Yes". Then follow the directions below to enter the code to disable the out-of-paper sensor.*

*The code to disable the out-of-paper sensor on an ImageWriter I or II is Escape-O (that's a capital letter "O"). For most Epson printers, the code is Escape-8.*

*If you have an Apple IIe or IIGs, you can add that code to the commands that normally appear in AppleWorks' Printer Interface Card area. Follow these steps:*

## AppleWorks Forum

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# Letters to NAUG...

1. Get to the Printer Information Screen.
2. Specify that you want to "Change Specifications" for your printer. That brings you to the Change a Printer Menu.
3. Indicate that you want to change the interface card setting.
4. Note the current setting. Then select "No" to indicate that the current setting is not okay.
5. Re-enter the interface card setting, then enter the code to disable the out-of-paper sensor. For example, if you use an ImageWriter with a Super Serial Card or an Apple IIGS, the original setting is Control-I 8ØN. Change that setting to Control-I 8ØN Escape-O. If you have AppleWorks 2.1 or earlier, terminate the entry by typing a caret mark (a shifted-6). If you have AppleWorks 3.0, type an Apple-Return.
6. Enter an Apple-Q followed by an Escape to return to the AppleWorks Main Menu. It will take a moment; AppleWorks must first write your changes into the printer file.

## Apple IIc and IIc Plus Solutions

If you have an Apple IIc or IIc Plus, you cannot change the printer interface card setting. If you use AppleWorks 2.1 or earlier, follow these steps:

1. Create a blank spreadsheet and issue an Apple-O command to get to the Options Menu.
2. Enter the command to disable the out-of-paper sensor, then type a caret mark.
3. Issue an Apple-S command to save this file.
4. Print this spreadsheet. Your printer will now accept single sheets of paper and envelopes without complaining that it is out of paper. You need to repeat this step every time you turn on your printer.

The **National AppleWorks Users Group (NAUG)** is an association that supports AppleWorks users. NAUG provides technical support and information about AppleWorks and enhancements to that program. Our primary means of communicating with members is through the monthly newsletter entitled the **AppleWorks Forum**.

If you are using a IIc or IIc Plus with AppleWorks 3.0, you can use AppleWorks' new Special Codes feature to disable the out-of-paper sensor. Follow these steps:

1. With the AppleWorks Main Menu on the screen, select choice #5, "Other Activities".
2. From the Other Activities Menu, select choice #6, "Select standard settings for AppleWorks".
3. With the Standard Settings Menu on the screen, select #6, "Specify information about your printer(s)". That brings you to the Printer Information Screen.
4. Indicate you want to change the specifications for your printer.
5. With the Change Printer Menu on the screen, select choice #5, "Printer Codes".
6. With the Printer Codes Menu on the screen, again select choice #5, "Special Codes".
7. Select choice #1 to enter the first code and name the code "Single Sheet". Enter the code that turns off the out-of-paper sensor for your printer. Then type an Apple-Return to indicate you are done.
8. Select choice #2 and call this code "Continuous Paper". Then enter the code to turn on the out-of-paper sensor (the code is Escape-o on an ImageWriter; it's Escape-9 for most Epson printers).

Now, if you want to print on single pages or envelopes with AppleWorks 3.0, put Special Code #1 at the beginning of the document. If you disabled the out-of-paper sensor, put Special Code #2 at the beginning of the next continuous feed document.

Finally, remember to set the "Accepts top-of-page command" to "No" for all your printers. Otherwise AppleWorks assumes your printer knows the length of the papers and envelopes you use. (For more information, see the article entitled "How to Print on Postcards and 3 x 5 Cards" in the **AppleWorks Handbook: Volume Two**.)]

## AppleWorks 3.0 File Formats

Dear NAUG:

How can I get the internal file format specifications for AppleWorks 3.0?

Bernard Simmons  
Missouri City, Texas

*[Ed: Claris recently released the AppleWorks 3.0 file formats and entry points for distribution through NAUG. The file format package includes 30 pages of technical information about the AppleWorks 3.0 data and printer files. The entry point documentation includes 35 pages of information about the entry points and "hooks" in AppleWorks. Assembly language programmers can use these locations to call AppleWorks routines or reference these addresses to get values from the program.]*

*Each package costs \$10 for NAUG members, \$12.50 for non-members, including shipping and handling. Specify whether you want the file formats or the entry points documentation. Foreign delivery is also available. Foreign members should send their credit card number; we will charge your account for the documentation and airmail postage.*

*Our thanks to Claris for making these file formats public.]*

## How to Produce Numbered Tickets

Dear NAUG:

I want to use AppleWorks to print tickets for our local organization. The tickets should look like this:

```
+-----+
+ OAKLAND CHAPTER #985   t  OAKLAND CHAPTER #985   +
+ JULY 22, 1989          e  JULY 22, 1989           +
+ Name.....           a  16440 ASHLAND AVE. SAN LORENZO +
+ Address.....         r  STUFFED PORK CHOPS & TRIMMINGS +
+ .....               |  SATURDAY AT 7:30 P.M.         +
+ Phone.....          h  DONATION $8.00 RAFFLE         +
+                       e  +
+      #000002          r      #000002                +
+                       e  +
+-----+-----+
```

How can I get both halves of the ticket to automatically carry the same number for our raffle?

Frederick R. Klemm  
Hayward, California

*[Ed: You can use AppleWorks' Mail Merge function to print the numbers on your tickets. First, you should prepare a spreadsheet with consecutive numbers in column A. Then transfer those values into a data base file. That data base file will have one category with one number in each record. Then print the data to the Mail Merge clipboard and prepare the format for the ticket in the word processor. Use the Mail Merge Command on the Options Menu wherever you want the ticket number to appear. Then print the tickets.]*

*If you use AppleWorks 2.1 or earlier, the size of the AppleWorks clipboard will limit you to producing a maximum of 250 tickets in each pass. (If you have an Applied Engineering memory card, you can print up to 999 tickets per pass ... that's the maximum number of rows in the AppleWorks 2.1 spreadsheet module.)*

*The process is easier with AppleWorks 3.0. If you have 256K or more in your computer, AppleWorks 3.0 offers 9,999 rows in the spreadsheet module; you can generate up to 9,999 tickets in a single pass.*

*In addition, AppleWorks 3.0 has a larger, more powerful clipboard that lets you transfer data directly from the spreadsheet into the data base. Just copy the spreadsheet data onto the clipboard, create an AppleWorks data base file with one category, get into multiple record layout mode, and copy the data from the clipboard.*

*With AppleWorks 2.1 and earlier, you cannot transfer data directly between the spreadsheet and data base modules. To perform that transfer, you need either TimeOut SpreadTools or you must print the spreadsheet to a text file or DIF file and use that file to create the data base. (If you use AppleWorks 2.1 or earlier, see the article entitled "How to Transfer Numbers from a Spreadsheet to a Data Base" in the May 1988 issue of the AppleWorks Forum.)*

# How to Use a LaserWriter with AppleWorks: Part II

by William Marriott

---

*This is the second in a series of articles that describe how to use an Apple LaserWriter printer with AppleWorks. In this article, Mr. Marriott describes how to connect a LaserWriter to a printer interface card in an Apple IIe or to the serial port on an Apple IIe, IIc Plus, or Laser computer. Next month, John Link will describe some advanced techniques that let you overcome the limitations described in this article.*

---

Last month I described how to use network software and hardware to get high quality LaserWriter output from AppleWorks. Unfortunately, that technique only works with Apple IIgs computers or with Apple IIe systems equipped with an Apple Workstation Card.

If you have an Apple IIc or IIc Plus, a Laser 128, EX, or EX-2, or an Apple IIe without a Workstation Card, you can still print with a LaserWriter. However, you can only use the mono-space 1 Courier font built into the printer; you must use the LaserWriter as if it were a fast, quiet, daisy wheel printer. (Figure 1 contains a sample of AppleWorks output from an Apple IIc connected to a LaserWriter.)

You configure the LaserWriter to emulate a daisy wheel printer by setting switches to put the LaserWriter into its "Diablo emulation" mode. [Ed: *The Diablo 630 is a high quality daisy wheel printer that set the industry standard after its introduction in the early 1980's.*] This lets you print at 10 characters per inch in Courier, which resembles pica type on a typewriter. These switch settings temporarily disable the printer's network compatibility, thus making the LaserWriter unavailable to other users.

Despite its limitations, there are three advantages to using a LaserWriter to emulate a Diablo 630 printer. First, the Diablo emulator is fast. Laser-

## Figure 1: LaserWriter Output from an Apple IIc

### National AppleWorks Users Group

Box 87453  
Canton, Michigan 48187  
(313) 397-1594

Dear **NAUG** Member:

This is an example of 10-point Courier output from a LaserWriter printer connected to an Apple IIc with a serial cable. Ten point Courier is the only font available. You cannot print different characters per inch, nor use Times. You can, however, underline and **boldface**, or **a combination of both.**

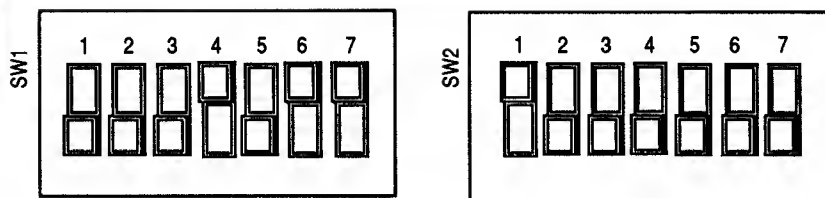
Writers print approximately eight pages per minute when running in the Diablo emulation mode.

Second, the LaserWriter is quieter than daisy wheel and dot matrix printers. You can use a LaserWriter in a classroom or office environment without disturbing others.

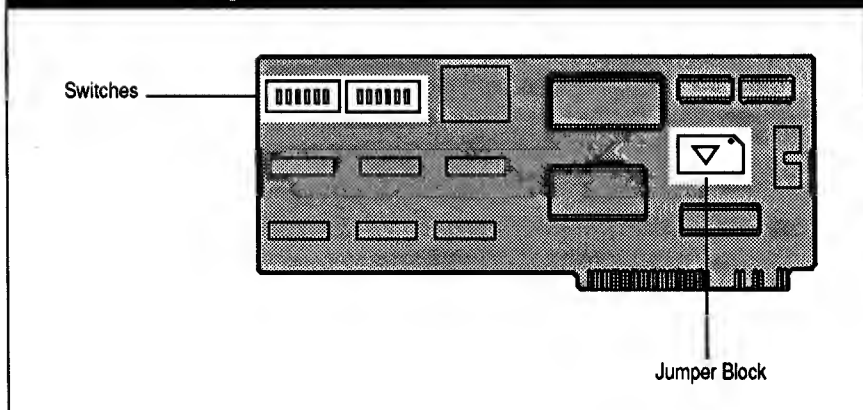
Third, LaserWriter output is generally superior to the output from daisy wheel or dot matrix printers. Impact printers use ribbons to print each character; they cannot match the quality of the characters produced by the LaserWriter.

Here are the step-by-step procedures you should follow if you want to use a LaserWriter with an Apple IIe, IIc, IIc Plus, or Laser computer.

**Figure 2: Super Serial Card Settings to Connect to a LaserWriter**



**Figure 3: Location of Jumper Block on the Super Serial Card**



## Step-By-Step Procedures

First, you will need the cable normally used to connect your computer to an ImageWriter I printer. If you have an Apple IIe, you will also need a Super Serial Card in Slot 1 or Slot 2.

Then follow these steps to get Diablo-quality output from AppleWorks:

1. If you have an Apple IIe, set the switches on the Super Serial Card so they match those in the diagram in *Figure 2*. Also make certain the triangle on the jumper block points to "Terminal" (see *Figure 3*).

If you have a IIc, IIc Plus, or Laser computer, you will not have to change any switch settings in the computer.

2. If you have an Apple IIe, plug one end of the printer cable into the Super Serial Card connector at the back of the computer. If you have a IIc or IIc Plus, connect the cable to the printer port at the back of the computer. If you have a Laser

computer, connect the cable to the serial printer port on the back of the system. Plug the other end of the cable into the 25-pin port on the LaserWriter. These connectors are in different places on the LaserWriter and LaserWriter II-series printers; *Figures 4A* and *4B* show the location of the ports on the two systems.

3. Switch the printer into Diablo emulation mode by setting the necessary switches. If you have a LaserWriter or LaserWriter Plus, turn the rotary switch near the serial port to "Special" (see *Figure 4A*). If you have a LaserWriter II NT, set the two DIP switches (located under the paper tray) to match the settings in *Figure 5A*. If you have a LaserWriter II NTX, set the six DIP switches (located under the paper tray) to match the settings in *Figure 5B*. Note the original settings; you must return the switches to

those settings to let the printer function on the AppleTalk network.

4. Add a custom printer to AppleWorks by going to the Other Activities Menu and selecting choice #7, "Specify Information about your printer(s)". Call the printer "LaserWriter" and indicate it is a custom printer.
5. Use the settings in *Figure 6* for this custom printer. Note that the Diablo 630 emulator can only print at 10 characters per inch and six lines per inch; do not bother entering the control codes for other character per inch or lines per inch settings.

Now print a document. The LaserWriter should print the file including boldface, underline, superscript, and subscript. However, you will not be able to use any of the proportional fonts built into the printer.

## Disadvantages of Serial Connections

While you can use these procedures to emulate Diablo 630 output on the LaserWriter, you must



# Printer Primer...

remember the disadvantages of using this setup. [Ed: Next month's article by John Link will describe some advanced techniques that let you overcome these limitations.]

First, if you do not already have access to a LaserWriter, the purchase of even a used LaserWriter to emulate a Diablo 630 printer is difficult to justify. Used Diablo 630 printers cost as little as \$250 compared to \$650 and up for a used LaserWriter. [Ed: See the sidebar entitled "Used LaserWriters Can Be Inexpensive" for more information about used LaserWriter printers.] In addition, Diablo 630 printers are more flexible than LaserWriters working in Diablo emulation mode. For example, you can change the daisy wheel in the Diablo and get different size output and fonts. With the LaserWriter you must print in Courier.

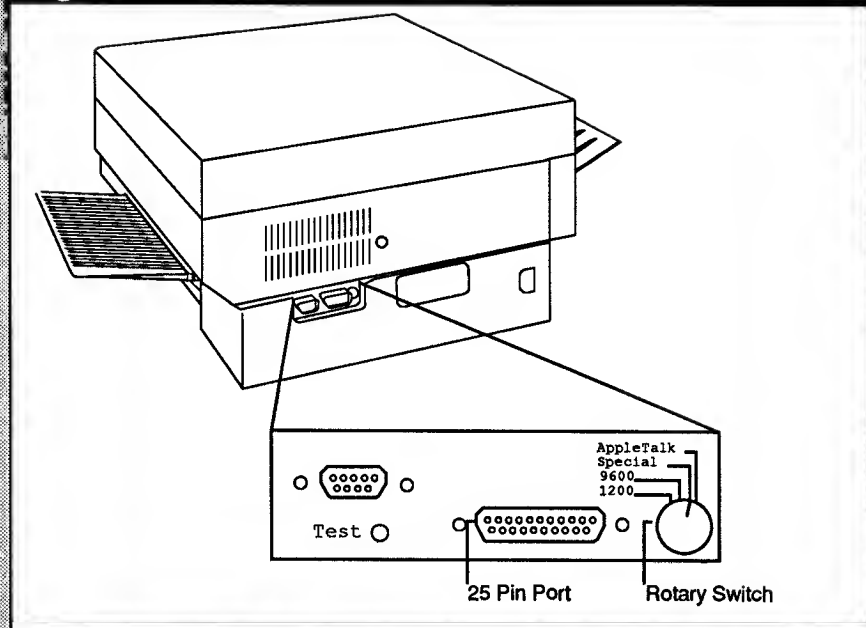
Like all daisy wheel printers, the Diablo 630 cannot produce graphic output. For example, you cannot use Print Shop, TimeOut SuperFonts, or Graph with either a Diablo 630 or a LaserWriter emulating a Diablo printer. Emulate the Diablo 630 and you must limit your work to ASCII text characters that you could actually print on the Diablo.

In addition, some of the new 24-pin dot matrix printers provide both excellent quality text output and graphic capability not available from the Diablo 630 emulation mode in the LaserWriter.

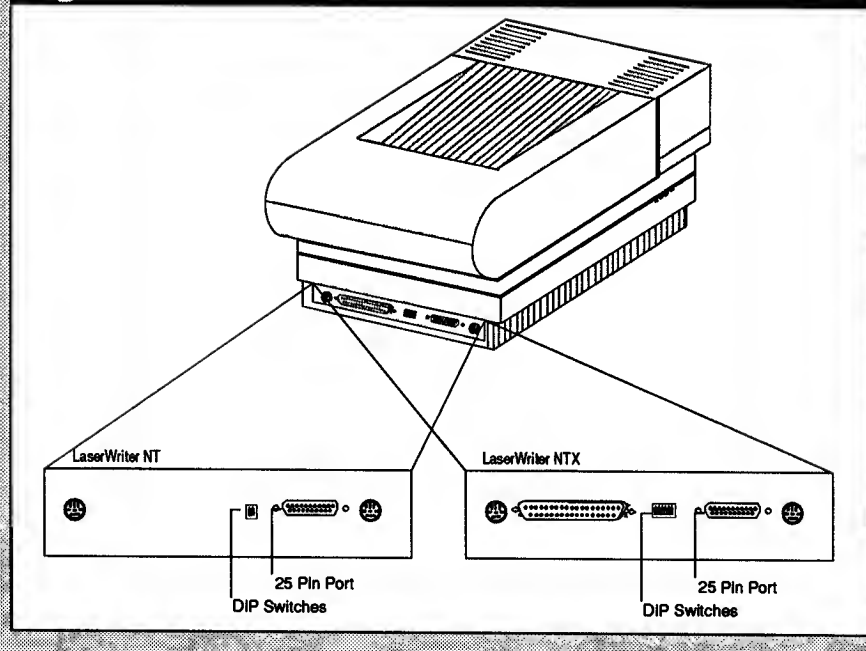
Finally, you must disable the AppleTalk capability of the printer when you put the LaserWriter in Diablo emulation mode. This makes the LaserWriter unavailable to all other users of the system. Macintosh users on the network will have to reinitialize the printer when you reset the LaserWriter switches so it is once again AppleTalk-compatible.

## Figure 4: 25-Pin Connectors

### Figure 4A: LaserWriter/LaserWriterPlus



### Figure 4B: LaserWriter II NT and II NTX

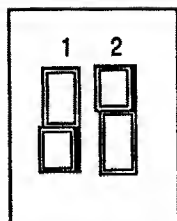


## Conclusion

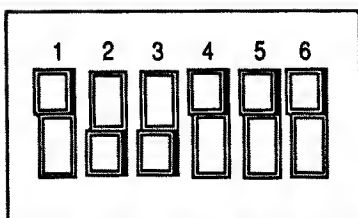
In this article, I described how to connect a LaserWriter printer to an Apple IIe, IIC, IIC Plus, or Laser computer. While I limit myself to a discussion of printing from AppleWorks, you can generalize these techniques to any Apple II, laptop, or MS-DOS computer that has a serial printer port

**Figure 5: Switch Settings for Diablo Emulation Mode**

**Figure 5A: LaserWriter II NT**



**Figure 5B: LaserWriter II NTX**



**Figure 6: Diablo Emulation Settings for the LaserWriter**

1. Needs line feed after each Return	No
2. Accepts top-of-page commands	Yes
3. Stop at end of each page	No
4. Platen width	8.0"
5. Printer codes:	
	Begin: End:
Boldface	Escape-O Escape-&
Underline*	Escape-E Escape-R
Subscript	Escape-U Escape-D
Superscript	Escape-D Escape-U
*Printer has start/stop underline commands.	

and a program that supports Diablo 630 printers. Despite its disadvantages, using the printer's Diablo emulation mode lets you get daisy wheel quality output quickly and quietly from AppleWorks and other popular computer programs.

*[William Marriott is a Technical Support Specialist with Claris Corporation and is a former Associate Editor of the AppleWorks Forum.]*

## Used LaserWriters Can Be Inexpensive

I just paid \$650 for a used LaserWriter Plus printer. If you're surprised by the low price, you shouldn't be. The new Apple LaserWriter II NTX, with version 47.0 of the Postscript interpreter, is an impressive printer, especially when equipped with extra RAM and a hard disk drive. Its introduction renders the original LaserWriters obsolete for anyone who puts a premium on speed.

As a result, you can get a bargain on a used LaserWriter from instant print shops or businesses where a large number of people share a printer. Many of these firms will soon upgrade to the NTX because, to them, time is money.

I got my LaserWriter inexpensively because the original owner already printed 90,000 pages on the unit. (The LaserWriter puts the number of pages printed at the bottom of the page it ejects when you turn it on.) You must renew the "engine" in the LaserWriter every 100,000 copies, so my unit is due for a refurbishment after I print another 10,000 pages. Ten thousand pages goes quickly for a commercial operation, but I will get years of service before I have to refurbish the printer. You should expect to pay \$1,100 to \$1,350 if the machine's counter is not approaching 100,000 copies and if the printer works well. Incidentally, refurbishment costs approximately \$650 and restores the working parts of the printer to "like new" condition.

—John Link





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Introducing the most powerful, most versatile AppleWorks® in history.

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**CLARIS**

# Special Offers for NAUG Members

---

**M**any vendors and software developers offer special discounts to NAUG members. You must identify yourself as a NAUG member and provide the membership number on your mailing label to qualify for these offers.

**Alpha Check:** Alpha Check is a Quicken-like check writer that operates inside AppleWorks. The program offers automated check writing and single-keystroke financial and tax reporting. Until December 1, NAUG members can purchase Alpha Check for \$24.95 plus \$3.50 s/h. (The regular price is \$39.95.) The current version of Alpha Check is not compatible with AppleWorks 3.0, although the developer expects to offer a \$5 upgrade to a 3.0-compatible version of the program in the near future.

ACTAsoft wants to encourage Alpha Check users to share their report templates. Send your Alpha Check report template to ACTAsoft; they will refund the purchase price of Alpha Check if they distribute the template on a future Alpha Check disk. ACTAsoft, 19700 Wells Drive, Woodland Hills, California 91364; (818) 996-6731.

**Ohio Kache:** While TransWarp cards, Zip Chips, and Rocket Chips speed up your computer's processor, these products do not significantly improve disk operations. Ohio Kache produces the Multi-Kache card that accelerates the effective speed of floppy and hard disk drives on Apple IIe and IIGs computers. At Boston AppleFest, the company demonstrated their product, loading AppleWorks and thirty TimeOut modules into an Apple IIGs from a 3.5-inch floppy disk in less than three seconds. Similar speed gains occur when you use the Multi-Kache card with floppy disk drives and with AppleWorks GS.

Until December 1, NAUG members can purchase a one-megabyte Multi-Kache card for \$445 (suggested list price is \$495) or a 256K card for \$265 (list

price is \$295). A SCSI adapter (NAUG member price of \$79.95) lets you use either card with a SCSI hard disk drive. Add \$5 per order for shipping and handling.

Order from Ohio Kache Systems, 4162 Little York Road, Suite E, Dayton, Ohio 45414; (800) 338-0050.

NAUG will publish a review of the Multi-Kache card in a future issue of the *AppleWorks Forum*.

**Zip Technology:** Zip Technology offers NAUG members special discount prices on its 4-megahertz and 8-megahertz accelerator products. Both Zip Chips dramatically increase the processing speed of Apple IIe, IIC, and Laser 128 computers; they are not compatible with the Apple IIGs.

A review of the 4-megahertz Zip Chip published in the July 1988 issue of the *AppleWorks Forum* indicates that Apple IIe and IIC computers equipped with 4-megahertz Zip Chips run AppleWorks approximately three times faster than standard systems. NAUG has not tested the 8-megahertz product.

Until November 1, NAUG members can purchase a 4-megahertz Zip Chip for \$115 (list price is \$149) or an 8-megahertz Zip Chip for \$165 (list price is \$199). Order from one of the following dealers:

Fas-Track Computer Products, 7030C Huntley Road, Columbus, Ohio 43229; (800) 272-1600. In Ohio call (800) 438-1168.

Memory Plus, 505 South 48th Street, Suite 104, Tempe, Arizona 85281; (602) 830-6457.

Quality Computers, 15102 Charlevoix, Grosse Pointe, Michigan 48230; (800) 443-6697. In Michigan call (313) 331-0700.

**Nite Owl Productions:** Apple IIGs computers use a built-in non-rechargeable lithium battery to power the internal clock and to remember the Control Panel settings. Batteries last between two and three

## Special Offers...

years from the time they are installed on the IIGS motherboard.

The original battery is soldered into the computer. Until now, you had to take the computer to a dealer who would remove the motherboard and solder in the new battery. As a result, dealers generally charge \$50-\$60 to replace the battery.

Nite Owl Productions produces the "Slide-On", a high-quality lithium battery you can install yourself in about five minutes. You turn off the computer, slide out the power supply, clip the leads on the original battery, and slide the new battery on the existing leads. The battery comes with easy-to-follow directions.

The regular price for the Slide-On is \$9.95. Until November 1, NAUG members can purchase the Slide-On for \$9.00 including shipping. Send your check (credit cards not accepted) to: Nite Owl Productions, Slide-On Batteries, 5734 Lamar Avenue, Mission, Kansas 66202; (913) 362-9898. Write "NAUG Offer" on the envelope. Kansas residents must include sales tax.

**Ehman Engineering:** NAUG members with Macintosh computers might consider this offer for Macintosh-compatible hard disk drives from Ehman Engineering. (We have not tested these drives for Apple II-SCSI compatibility, but the external versions of these drives should be compatible with the Apple II SCSI interface card.)

NAUG member prices are as follows:

	<u>Internal</u>	<u>External</u>
20 MB	\$330	\$390
32 MB	360	450
45MB	420	490
60MB	450	550
80MB	560	650

The drives feature Seagate mechanisms with a 23 millisecond access time, a two-year limited warranty, and a 30 day money back guarantee.

The company also offers NAUG members a 44MB Syquest removable hard drive for \$829.

These are attractive prices; we would like to hear from members who get these drives to work with AppleWorks.

Contact Ms. Susan Ivester, Ehman Engineering, (214) 750-6114.

### Continuing Offers for NAUG Members

**Claris Corporation:** Until December 31, NAUG members who do not have an original AppleWorks disk can upgrade to AppleWorks 3.0 for \$99, plus \$3 s/h. (The suggested retail price of AppleWorks 3.0 is \$249.) Owners of earlier versions of AppleWorks can upgrade to 3.0 for \$79, plus \$3 s/h. See the special offer insert in the July 1989 issue of the *AppleWorks Forum* for complete details.

**CompuServe:** NAUG members can get a free CompuServe account and a \$15 credit toward their CompuServe usage. Call (800) 848-8199 and ask for representative #92.

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### Corrections

We omitted two ">" symbols from *Figure 1B* on page 21 of the July 1989 issue. Macros <sa-a> and <sa-f> in the figure should read:

a:<all : oa-q : esc : rtn : rtn : sa-f>!  
f:<all : find : rtn>|

The July 1989 issue stated that Applied Engineering would develop expansion software for AppleWorks 3.0. That is not correct. Applied believes that the features in 3.0 are adequate and that AppleWorks no longer requires expansion software.

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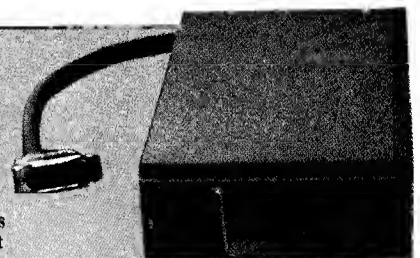
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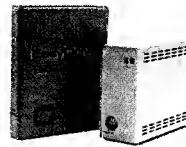
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# Branching Spreadsheets: Using “And/Or Logic” for More Powerful Applications

by Warren Williams and Cathleen Merritt

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*This is the last in a series of articles on branching spreadsheets. The first four articles described how to use AppleWorks' @IF, @CHOOSE, and @LOOKUP function, and how to manipulate text in AppleWorks 3.0. This month, the authors describe how to use AppleWorks' @OR and @AND to write more powerful @IF statements.*

---

If you are familiar with the history of AppleWorks, you know that the advent of AppleWorks 2.0 brought us Mail Merge and other new features. One of the little-noticed advances in version 2.0 was the addition of “and/or logic” in the spreadsheet module. In this article, we will describe how to use and/or logic to enhance the branching power of your spreadsheets.

## And/Or Logic Explained

The @IF function lets you prepare spreadsheets that follow one branch if something is true and another branch if something is false. For example, the statement @IF(A5<1,0,3) displays a zero if cell A5 contains a number less than one, and a three if cell A5 has a number equal to or greater than one.

But what if you want to check if cell A5 contains a zero *or* the number 100? Or what if you want to check the contents of two different cells?

The @IF function is powerful, and you can “nest” @IF statements to get even greater power. However, it is still difficult to use @IF to test if one thing *or* another is true. There are fancy work-arounds that let you do these checks, but AppleWorks' capability to recognize @OR and @AND functions makes these and other tests easy.

## When to Use @OR and @AND

Both @OR and @AND work within the “test” portion of an @IF statement. @OR checks if *any* of two or more tests is true; @AND checks if *all* the tests are true.

For example, consider the statement

@IF (@OR (A20=1, B20=1), 0, 5)

This statement checks if either cell A20 or cell B20 contains a one. If either A20 or B20 contains a one, a zero appears in place of the formula. If neither A20 nor B20 contain a one, the formula displays the number five.

Similarly, the formula

@IF (@AND (A20=1, B20=1), 0, 5)

displays a zero if both A20 and B20 contain a one. If either cell contains a blank, a label, or any number other than a one, this formula displays a five.

## Syntax of @OR Statements

@OR statements follow this syntax:

@IF (@OR (test1, test2, test3, testn), if any true, if all false)

The statement checks if any one or more of the tests are true. If any test is true, then the “if any



**Figure 1: Hypothetical Tax Calculation Worksheet**

1	=====B=====C=====D=====E=====F=====G=====H=====I=====	
2		
3	Sample Tax Worksheet	
4	=====	
5		
6	1. How many exemptions do you claim?	[ 2 ]
7	2. Do you itemize your deductions? (y/n)	[ y ]
8	3. Gross Receipts	[ 42,000 ]
9	4. Total Deductions	[ 13,000 ]
10	5. Taxable income	[ 29,000 ]
11	6. Taxes due	[ 4,350 ]
12		
13		@IF(@OR(G6<2,G7="y",G7="Y"),@LOOKUP(G10,B19...B23),
14		@LOOKUP(G10,D19...D23))
15		
16	Table 1	Table 2
17	Income Taxes	Income Taxes
18	=====	=====
19	0.00 0.00	0.00 0.00
20	.01 4,350.00	.01 4,350.00
21	17,850.01 10,797.50	29,750.01 22,582.50
22	43,150.01 19,331.50	71,900.01 25,834.50
23	89,560.01 Too high	149,250.01 Too high

$.15 * G10$   
 $+ G10 * .28 + 4462.5$   
 $.33 * G10 + 16264.5$

true" result appears in place of the formula. If none of the tests are true, the "if all false" result appears.

## Syntax of @AND Statements

Just as the @OR function checks if *any* test in the list is true, @AND checks if *all* the tests are true. For example:

@IF (@AND (Q30>Q29, Q30>500) , Q30, 100)

checks if the value in cell Q30 is greater than the value in cell Q29. If it is, *and* if Q30 is also greater than 500, the value of Q30 appears in place of the formula. If either test is false (i.e., if Q30 is not greater than 29 *or* Q30 is not greater than 500), the number 100 appears.

The syntax of @AND statements parallels that of @OR functions:

@IF (@AND (test1, test2, test3, testn), if all true, if any false)

The @AND statement evaluates tests 1 through n. If all are true, the "if all true" entry appears in place of the formula. If any test is false, the "if any false" outcome appears.

## Complex @OR and @AND Statements

You can have numerous tests in a single @OR or @AND statement. You can also include @IF, @LOOKUP, and @CHOOSE statements as the result of any @IF statement. With AppleWorks 3.0, you can even include tests for labels within these statements. However, the general limitations on formulas in the AppleWorks spreadsheet module still apply to these statements; for example, no single formula can be longer than 78 characters. [Ed: See the article entitled "Limitations of the AppleWorks Spreadsheet" in the *AppleWorks Handbook: Volume Two* for more information about the operating limits of the AppleWorks spreadsheet module. Also see the sidebar entitled "How to Manage Large Formulas" on the next page.]

## An Example

Figure 1 depicts a hypothetical tax calculation model that demonstrates some of the power available through the combination of these features.

This hypothetical model assumes that there are only two categories of taxpayers. You pay tax at one rate if you have no exemptions besides yourself or if you itemize your deductions. You pay tax

## How to Manage Large Formulas

You can usually fit @CHOOSE and @LOOKUP statements in a spreadsheet cell without using any special techniques. But nested @IF statements, or statements that combine @CHOOSE and @LOOKUP functions are often too large to fit within the area allocated for the entry of formulas at the bottom of the AppleWorks screen. Here are some tricks to help you enter long formulas:

1. Do not format a cell until after you enter the formula. The format specifications take up space on the data entry line at the bottom of the AppleWorks screen. That limits the length of the formula you can enter into the spreadsheet.
2. Type a portion of the formula, then press the Return Key to enter that formula into the cell. Note that you must enter a "complete" portion of the formula or AppleWorks will not accept your entry. Enter any portion of the formula that is logically correct and intact. For example, you can enter any cell reference (like "+A23") and press the Return Key.

Next, enter an Apple-U to indicate you want to edit the formula. Now use the over-writing and

inserting cursors to complete the formula. You can use this technique to enter formulas up to 78 characters long into a single AppleWorks spreadsheet cell.

3. Subdivide the formula into separate cells and refer to those cells in the final formula. For example, the formula

```
@CHOOSE (H5, @LOOKUP (G20, AA100..AA140), @LOOKUP (G20, AC100..AC140), @LOOKUP (G20, AE100..AE140))
```

will not fit in a single cell. But you can put each @LOOKUP function in a separate cell and refer to that cell in the final formula. For example, put the formula @LOOKUP (G20, AA100..AA140) in cell A100, the formula @LOOKUP (G20, AC100..AC140) in cell A101, and the formula @LOOKUP (G20, AE100..AE140) in cell A102. Then enter the formula @CHOOSE (H5, A100, A101, A102) in place of the original long formula. By separating long formulas into meaningful sub-parts, you can accommodate any length calculation in the spreadsheet module.

at another rate if you claim exemptions or do not itemize your deductions.

Cell G11 contains the formula that controls the branching logic in this spreadsheet. That formula includes three tests: (1) Does cell G6 (your number of exemptions) contain a value less than two? (2) Does cell G7 contain a lower-case "Y"? (3) Does cell G7 contain an upper-case "Y"? If any of those conditions is true, the formula looks up your taxes in Table 1 at the bottom of the spreadsheet. If none of those conditions is true, the formula computes your taxes based on the calculations in Table 2.

Tables 1 and 2 are unusual because they contain calculated values. The formulas that appear in cells E20 through E22 duplicate the calculations that appear in the income tax tables. For example, cell E20 calculates the tax due if you claim two or more exemptions, itemize your deductions, and have an income of less than \$29,750.01. These tables calcu-

late the tax for every combination of taxpayer, and the formula in cell G11 determines which of the calculated values appears as your taxes due.

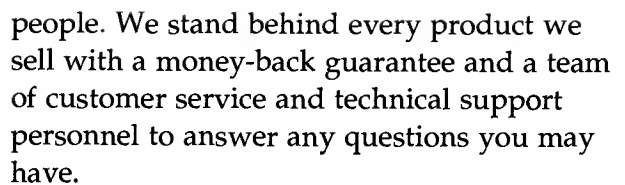
### Summary

As you can see, AppleWorks' ability to combine the capabilities of the @IF, @CHOOSE, and @LOOKUP functions with the logical @OR and @AND statements, gives exceptional power to the spreadsheet module. Most of us will never need all the power that is available in this module, but AppleWorks once again proves that it is a difficult program to outgrow.

## NAUG Classifieds

The 1987-88 U.S. Dept. of Education master list of over 90,000 schools and addresses is available in AppleWorks data base files. The databases are available on 5.25 or 3.5 inch disks. A tremendous asset for advertisers to schools. The cost is less than a one time rental from mailing brokers. Contact: The Software House, Box 27, 80 N High St., Chillicothe OH 45601. Phone: (614) 773-3223.

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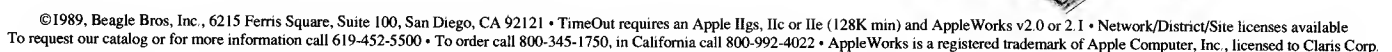
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# How to Manage Your Hard Drive

by Gary R. Morrison

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*This is the last in a series of seven articles by Dr. Morrison that describe how to use a hard disk drive with AppleWorks.*

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**I**n the previous articles in this series I described how to purchase, format, and install software on a hard disk. By now, you should have all your applications loaded, menus constructed for your disk management software, and a number of data files stored in subdirectories.

Most popular disk management systems come with important utility programs. In this article, I will describe how to use those utilities to manage and improve the performance of your hard disk.

## Backup

An old aviation adage says there are two types of pilots; those who have landed with their landing gear up and those who will. Similarly, there are two types of hard disk users; those who have lost data and those who will.

Losing access to the data on a floppy disk is upsetting, but losing access to all the files on a 20-megabyte hard disk can test your sanity.

Hard disk users must remember that disk drives are electro-mechanical devices that are susceptible to failure. Although we cannot prevent failures, we can minimize our loss. The first line of protection is a regular backup of all the files stored on the disk.

Backing up a hard disk involves copying the files from the hard disk onto another media, usually onto numerous 3.5-inch floppy disks or onto a magnetic tape. (You can backup your hard disk onto 5.25-inch floppy disks, but that is impractical. It takes approximately 144 5.25-inch floppy disks to store the contents of a 20-megabyte hard disk.) Then, if something happens to the files on the hard disk, you can use the backups to recover your data.

Of course, any changes you made in the files since the backup will be lost.

## Why Special Backup Software?

You might wonder why you need special software to back up a hard disk. Why not use a disk copy or file copy program you already own?

***“Disk management systems come with important utility programs.”***

You cannot use a *disk* copy program because disk copy programs make exact duplicates of the original disk. That means the original and copy must be on the same media, and you cannot use a disk copy program to back up a hard disk onto floppy disks.

You can use a *file* copy program to make backups of your hard disk, but I do not recommend that procedure. File copy programs do not segment large files that will not fit on a single floppy

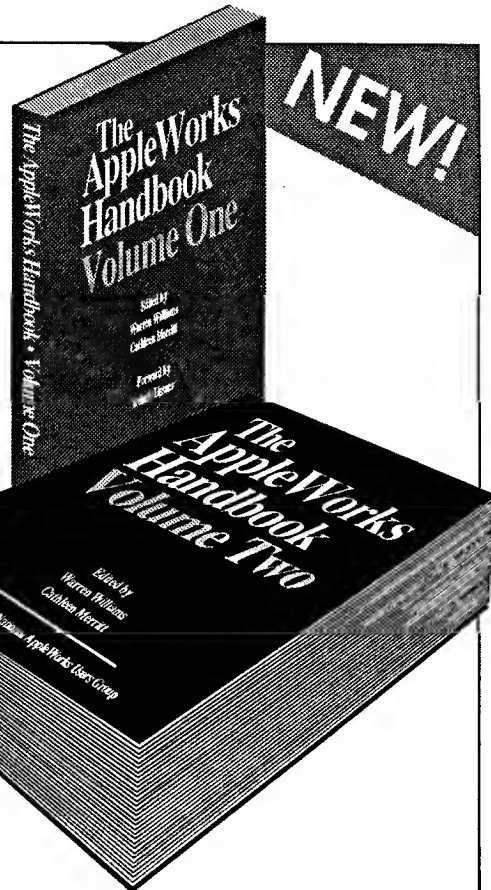
disk, nor do they keep track of the structure of the subdirectories on your hard drive. Finally, file copy programs are less convenient to use and do not compress your files to save space on the backup disks.

## Backup Programs

Like all software, dedicated backup programs differ in the features they offer. However, all share similar traits. They all save your files and keep track of the subdirectory structure of your hard disk. All the backup programs use a “restore” program to reconstruct the data on the hard disk; you cannot simply copy the files from the backup copy onto the hard disk. Since every backup program uses a different approach to storing data, you must use the restore program that came with the backup program should you ever need to recreate the files.



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## Volume Two Contents

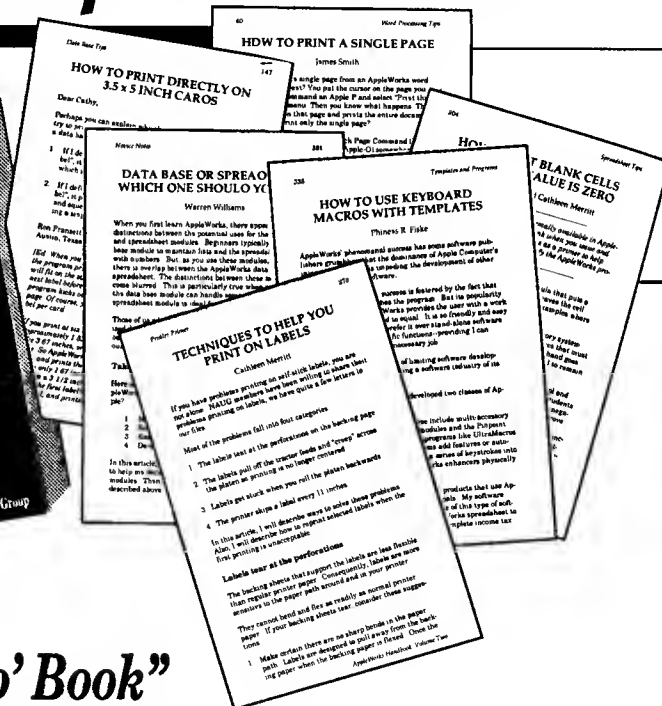
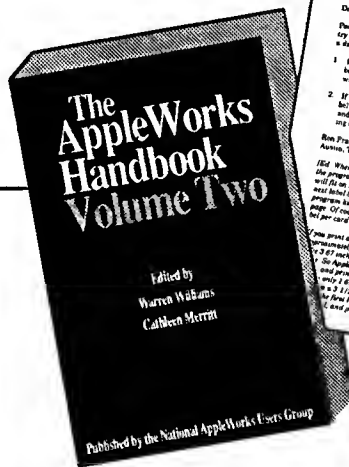
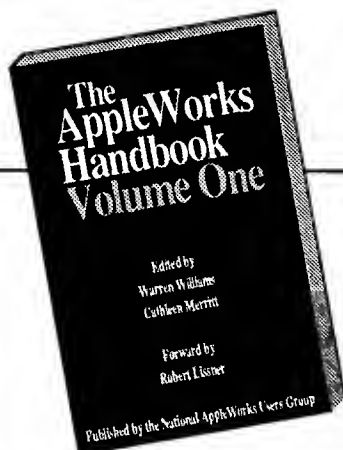
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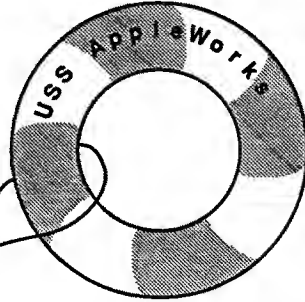
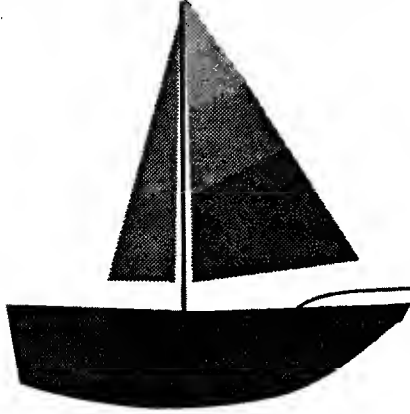
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# Hard Disk Primer...

Let's examine three backup programs: Apple Computer's Backup II, and the backup programs that come with EasyDrive and ProSel.

**Backup II:** Apple Computer's Backup II is one of the oldest hard disk backup utilities. Backup II has two important advantages. First, the program is free from Apple dealers. Second, Backup II lets you back up the complete hard disk volume, any subdirectory, or only those files that were changed since the last backup. Unfortunately, Backup II does not compress your files; it takes longer and more disk changes to do complete backups using Backup II than programs that use file compression techniques.

**EasyDrive:** The EasyDrive disk management system includes a backup program you install on the hard disk. EasyDrive's backup program compresses the files so they take up less space on the floppy disk. However, EasyDrive does not let you back up a single subdirectory or file; you must back up and restore the complete hard disk volume.

**ProSel:** ProSel offers the fastest of the backup utilities; if you have two or more 3.5-inch drives, the program alternates between those drives and never stops copying. While ProSel does not offer incremental backups, ProSel does let you restore individual files from your backup disks. ProSel does not offer file compression.

As you can see, each program has its own advantages and disadvantages; any one of these programs will do an adequate job of backing up your files.

## Scheduling Your Backups

Backing up a hard disk is not fun. It ties you and your computer up for two to three hours and requires you to keep changing disks. But the process is simple and is one of the necessities of owning a hard disk.

You should back up your disk on a regular basis. I usually plan full volume backups during the middle of the month because two or three computer magazines arrive about then and I can relax and read while the system does the work. In addition, the arrival of the magazines reminds me that it is time to do the backup.

The frequency with which you backup the disk depends on the importance of your files. If you use the disk to run a business, consider backing up

your files once or twice each week. If you use your disk primarily for personal work, you should plan a monthly backup.

You only need to backup a volume after you make significant changes to the files on that volume. For example, you only need to backup your PROGRAMS volume when you add new software or change configurations. However, you should backup your DATA volume on a regular basis. Ask yourself what the effect would be if you lost all of the data on your hard disk today and if you lost all the data one week after you backed it up. Then decide on your backup schedule.

If you have important data, you might want to keep two sets of disks for your backups. Rotate the different sets for each backup so that you have a backup of your backups.

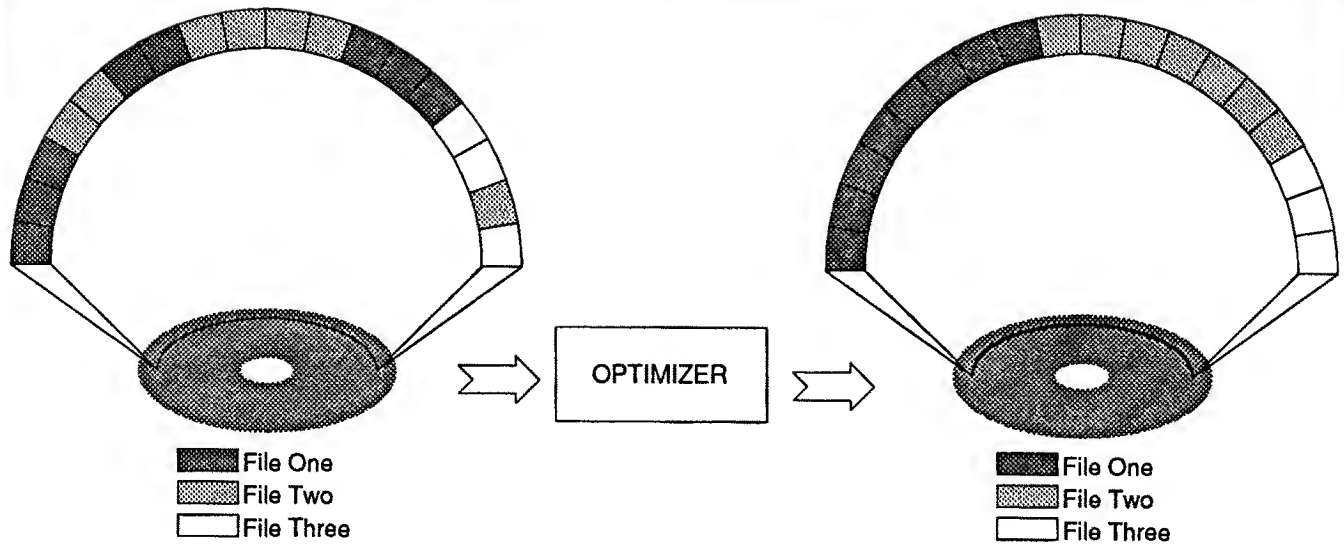
## How to Do a Backup

Start the backup process by formatting the required number of floppy or 3.5 inch disks. Name the disks BACKUP.01, BACKUP.02, and so forth; that helps you keep track of which disk you need to insert next. Put a label on each disk.

The speeds of your disk drives might differ slightly and could cause read or write errors if you format a disk in one drive and try to use it in another. Glen Bredon, the author of ProSel, recommends that you format the disk on the same drive you will use when you backup your hard drive. While most backup programs only let you use one floppy drive, ProSel lets you use two drives for the backup process. So, if you have ProSel and two 3.5-inch drives, format the odd numbered disks (e.g., BACKUP.01, BACKUP.03) in Drive 1 and the even numbered disks (e.g., BACKUP.02, BACKUP.04) in Drive 2.

Now it is time to back up your files. If you use Apple's Backup II or EasyDrive, launch the application as you would any other program. Both ProSel-8 and ProSel-16 include backup programs. If you use ProSel-8, select "Utilities Directory" from the ProSel Main Menu, then select "Backup" from the Utilities Menu and follow the on-screen prompts. If you use ProSel-16, select the Utilities Folder under "Miscellaneous" (not "Utilities" under "ProSel-16 stuff"), then select "Backup" from the Utilities Menu.

**Figure 1: Hard Disk Optimization**



Follow the on-screen prompts and insert the appropriate backup disk when requested. When you are done, write the date on a piece of paper and store it with your disks.

Store the disks away from your computer to protect your data from theft, fire, or flood.

## Incremental Backups

If you use Backup II, consider doing weekly incremental backups. An incremental backup copies only those files that were changed since the last backup; incremental backups are relatively fast and convenient.

If you use EasyDrive or ProSel, consider backing up your AppleWorks data files as you work. Keep them on the desktop until the end of the day and save them on floppy disks before quitting AppleWorks. I suggest you maintain separate floppy disks for each subdirectory on your hard disk, e.g., one disk for personal letters, one disk for tax data, and so forth.

At the end of the day, go to the Other Activities Menu and tell AppleWorks you want to save your files on the floppy disk drive instead of the hard disk. Then bring the file onto the screen, insert the correct disk in the drive, and issue an Apple-S command to save the file. Reformat these disks after you do a regular backup.

## Optimization

Most hard disk management programs include an optimizer; a little used utility that improves the performance of the drive by rearranging the data on the disk platter. It works as follows:

ProDOS saves your files in "blocks"; each block holds 512 bytes of data. When your disk drive is empty, ProDOS saves files in blocks that are adjacent to one another. Storing the data in adjacent blocks minimizes the distance the drive head needs to move to save or load a file.

Now imagine a hard disk with File 1 stored in blocks 50-65, File 2 in blocks 66-88, File 3 in blocks 89-92, and File 4 in blocks 93-110. When you delete File 3, you leave blocks 89-92 empty. The next time you save a file, ProDOS will start to save the file in blocks 89-92. If the file fits, ProDOS stores the file in adjacent blocks on the disk. If the file does not fit, ProDOS stores the beginning of the file in blocks 89-92 and then looks for free space elsewhere on the disk. Thus, as you use a disk drive, your new files get separated, or "fragmented". This slows down the operation of the drive because the heads must move from location to location while they read and write the different segments of the file.

Most optimizers move all the subdirectories to the beginning of the disk; that makes it easier for ProDOS to read the directories and find the files. In

addition, the optimizer moves each file into contiguous blocks to speed up the hard disk loading and saving times. You can get up to a 50% increase in speed when you optimize a badly fragmented disk; thus the ability to optimize a disk is an important part of a hard disk management package.

*Figure 1* depicts the position of files on a disk track both before and after optimization.

However, consider this word of caution about optimizers: Moving blocks of data around a disk is a risky process. If anything goes wrong, you might be unable to access some or all of the files on the disk. Therefore, you should only run an optimizer program after doing a full volume backup. Then, if a problem occurs, you can use the backup to recover your files.

Both EasyDrive and ProSel come with optimizing programs that rearrange the data on a disk so it is easier to access. EasyDrive's program is called "Optimizer"; ProSel's optimizer is cryptically named "Beach Comber".

## Comparison of Optimizer and Beach Comber

EasyDrive's Optimizer is slower but safer than Beach Comber. Optimizer never reads more than two blocks into memory at a time, thus you are unlikely to lose more than a single file if the power fails or disaster strikes. ProSel's Beach Comber uses the memory in your computer to read in larger segments from the disk. As a result, Beach Comber is significantly faster than Optimizer. But if the power fails, you are likely to suffer greater damage to the files on your disk if you use Beach Comber.

Optimizer has another advantage; it lets you press the Escape Key and quit the program at any time. That's a useful feature given that it can take three to five hours to optimize a 20-megabyte hard drive. You cannot quit Beach Comber until it completes its task, but that is less of a problem because Beach Comber takes less than an hour to optimize the same 20-megabyte drive.

EasyDrive's Optimizer lets you limit the optimization to only the subdirectories; that is significantly faster than optimizing the complete drive. (Optimizing the subdirectories gives you almost 90% of the speed increase you obtain from optimizing the entire hard drive.) EasyDrive also includes a utility

called "Status" that checks the number of fragmented files on your disk and recommends whether or not you should optimize the disk.

## Clean Up Your Drive

One theorem of home ownership is that one's possessions always grow to exceed one's storage capacity. A corollary is that one's need for data storage always exceeds the available space for one's files. It is difficult to imagine filling up a hard disk but, unless you are careful, you will.

Even before you fill your drive, there are good reasons to delete older files and conserve space on your system.

First, consider the extra time it takes to scroll through older files when you look at the disk directory. Not only do these files take your time, they slow down the computer. And, each time you read a directory, ProDOS must read and display the filename.

Second, the more files on your drive, the longer it takes for you to back up and optimize that drive. Anything that discourages you from backing up and optimizing your hard disk should be avoided; they are important operations.

Every few months you should search through the data files on your disk and archive the unused files onto one or more floppy disks, then delete the files from the hard disk. You can use TimeOut FileMaster for this process. FileMaster works within AppleWorks, so you can look at the contents of each file, and FileMaster can show you the disk catalog sorted in chronological order. *[Ed: To sort a directory in FileMaster, select "List Files" from the File Activities Menu and issue an Apple-A command. FileMaster will ask if you want to sort the directory alphabetically by name, chronologically, by size, or by date.]*

## Parking the Heads

As I described in the first article in this series, hard disk drives work by having light-weight read/write heads "float" over spinning disks on a cushion of air. These systems are surprisingly rugged when you consider how delicate the mechanism must be inside the unit. But the drives are susceptible to damage when you move the units;

# Hard Disk Primer...

it's important to "park" the heads in a position where they cannot damage the data on the disk.

While many hard disk systems automatically park their heads, other drives rely on a utility program to manually execute this process. *[Ed: See the article entitled "How to Select a Hard Disk Drive" in the April 1989 issue of the AppleWorks Forum for a list of Apple II-compatible drives that have self-parking heads.]*

If your drive does not have self-parking heads, make certain you run the head-parking software that comes with the drive whenever you shut down the unit. ProSel-8 and ProSel-16 also include a utility called Park Heads. If you use ProSel-8, select "Utilities Directory" from the ProSel Main Menu, then select "Park Heads" from the Utilities Menu. If you use ProSel-16, select the Utilities Folder under "Miscellaneous" (not "Utilities" under "ProSel-16 stuff"), then select "Park Heads" from the Utilities Menu.

## Problems

Now that you've taken all the necessary precautions, what do you do if your hard disk fails? First, power down your system, check the cables, and remove and re-seat the hard disk interface card in the computer. Many hard disk problems can be traced to poor connections between the cables, card, and computer.

If that doesn't help, call the technical support staff at the dealer where you purchased the drive. Dealers who sell many hard drives are aware of the usual problems with the systems they sell; a good dealer will try to help you get the system going. If that doesn't help, call the technical support staff at the manufacturer.

If the disk drive is working but you lost access to your data, you can reformat the disk and restore the data to the volume using the backup disks. But first speak to the dealer and manufacturer; an experienced hand might be able to recover the old files and have you avoid reformatting the disk.

Some manufacturers will attempt to recover your data when they repair a drive. When your disk is returned after a repair, check it first before reformatting or restoring the files. You might find that your data is still intact.

Always be alert to any unusual sounds from your disk drive. If you hear anything unusual or you experience problems when booting, immediately do a backup and then check with the appropriate technical support group. Hard drives often give plenty of warning before they fail completely.

## Summary

By now, you undoubtedly appreciate the speed and convenience of your hard disk. Regular and frequent backups and proper management of the disk are necessary for a safe and efficient work environment.

*[Dr. Gary R. Morrison is an Associate Professor at Memphis State University. He is the author of the book "ProDOS 8 and 16", RepairWorks, and numerous other articles and software. You can contact Dr. Morrison as G.R.MORRISON on GENIE, as GRMORRISON on AppleLink—Personal Edition, at the RepairWorks folder of the AppleWorks Direct Connect section of AppleLink—Personal Edition, and as 76317,1062 on Compuserve.]*



# Gaining Power with the Macro Programming Language

by Mark Munz

*This is the thirteenth in a series of articles that describe how to use TimeOut UltraMacros to enhance the power of AppleWorks. This month, Mr. Munz describes the keyboard equivalents of UltraMacros tokens and commands he did not present earlier in this series. Next month he concludes the series by describing how to use the new features of version 3.0 of UltraMacros.*

Each article in this series introduces new UltraMacros commands you can use to prepare compiled macros. This month I will describe commands that let you (a) force AppleWorks into a certain condition, (b) control when you execute a macro, (c) store UltraMacros data in an AppleWorks file, (d) clear all the variables you established with UltraMacros, (e) output directly to a printer, and (f) examine and change what is in memory. First, I will describe how to generate some UltraMacros commands from the keyboard.

## Keyboard Equivalents

As you know, UltraMacros adds many commands to AppleWorks. Some of these commands work from both the keyboard while using an UltraMacros-enhanced copy of AppleWorks and within macros by using tokens. Figure 1 lists the keyboard equivalents of the different tokens. While not every token has a keystroke equivalent, the keystrokes are useful when you want to use these features without writing a compiled macro.

**Figure 1: Keyboard Equivalents of UltraMacros Tokens**

Token	Keyboard Equivalent	Notes
<ahead>	sa-.	Finds first blank space to right of cursor.
<back>	sa-,	Finds first blank space to left of cursor.
<cell>	oa--	Reads current spreadsheet cell or data base entry.
<clear>	oa-ctrl-X	Clears all numeric and string variables.
<date>	sa-'	Displays date in format September 1, 1989.
<date2>	sa-"	Displays date in format 09/01/89.
<dec>	oa-ctrl-A	Decrements character at current cursor position.
<disk>	oa-f	Reads current volume name or subdirectory pathname.
<find>	sa-Return	Moves cursor to next carriage return marker.
<findpo>	sa-^	Moves cursor to next caret mark.
<getstr>	oa-Ø	Store user entry in \$Ø.
<inc>	oa-ctrl-W	Increments character at current cursor position.
<insert>	oa-!	Turns on the insert cursor.
<lc>	oa-;	Changes character to lower case.
<nosleep>	oa-ctrl-N	Cancels the currently defined sleeping macro.
<oa-ctrl-@>	oa-ctrl-@	Sends a Control-@ from within a macro.
<path>	oa-*	Reads current volume name or subdirectory name and the currently highlighted file name.
<read>	oa-^	Reads character at current cursor position.
<recall>	oa->	Recalls data stored with <store>.
<sa-del>	oa-Delete	Deletes character the cursor is on.
<store>	oa-<	Stores first 15 characters of macro Ø into the current word processor or spreadsheet file.
<time>	sa-=	Displays time in format 3:1Ø pm.
<time24>	sa-+	Displays time in format 15:1Ø.
<uc>	oa-:	Changes character to upper case.
<zoom>	oa-@	Forces zoom out.

## Forcing a Condition

While writing a macro you must sometimes force AppleWorks into a certain state or condition. For example, some macros only work correctly when a data base file is in multiple record layout mode.

## Figure 2: Macro to Change Multiple Record Layout

```
V:<adb: zoom:           { force zoom out }
   oa-L:                { change layout  }
   oa-D: oa-D:          { remove categories from layout }
   oa-I:                { now insert a category }
   up: rtn :            { choose first category on the list }
   oa-I: rtn:           { insert another category }
   esc>!                { return to multiple record layout }
```

## Figure 3: Alarm Clock Macro

```
A:<all:wake sa-Q at 17:00>!  
Q:<all:bell:bell:bell:msg ' Time to go home! '>!
```

## Figure 4: Auto-Save Macros

```
W:<all:M=0:H=8:         { set H to hour -- 8, and M to minute }  
   wake sa-S at 08:00>! { Wake <sa-s> macro at 8:00am }  
  
S:<all:oa-s             { save file }  
   M=M+10 :            { add 10 minutes for next time to wake up }  
   if M=60 then  
     M=0 :H=H+1:elseoff { if M=60, then you are at the next hour, }  
                       { so set M to 0 and update H }  
   wake sa-S at H:M>!  { put macro back to sleep and }  
                       { wake it up 10 minutes from now }
```

Last month I described the <zoom> command which forces AppleWorks to “zoom out”. <zoom> tells AppleWorks to hide the display of printer commands in the word processor, show values instead of formulas in the spreadsheet, and display multiple record layout mode in the data base module. I also described how the combination <zoom> <oa-z> forces AppleWorks to “zoom in”.

UltraMacros offers other commands that let you force AppleWorks into different states. The <insert> command tells AppleWorks to put the cursor in insert mode; i.e., to move existing text to the right as you enter new text. Similarly, <insert:oa-e> forces AppleWorks into overstrike mode.

<ahead> forces the cursor to the first blank space after the current cursor position. As you might expect, <back> moves the cursor to the first blank space to the left of the cursor.

In the word processor, the <find> command forces the cursor to the next carriage return marker. Similarly, <findpo> forces the cursor to the next caret mark.

Figure 2 depicts a macro that rearranges the pre-

sentation of data in a data base file. This macro uses the <zoom> command to make certain AppleWorks is in multiple record layout mode before it issues an Apple-L command to change the layout of the columns.

The macro in Figure 2 reverses the position of the first two categories in multiple record layout. You can use this macro if you sometimes want to display data with last name first and other times with first name first.

The macro first forces AppleWorks to zoom out into multiple record layout mode and then issues an Apple-L command to change the layout of the display. Next, the macro uses two Apple-D commands to delete the first two categories and issues Apple-I commands to insert the two categories in reverse order.

## “Sleeping” Macros

If you have an Apple IIGS or a ProDOS-compatible clock in your Apple IIe or IIc, you can specify the time that UltraMacros should execute a macro. For example, you can tell AppleWorks to wait until 8 pm and then print a long data base report, or you can tell TimeOut TeleComm to wait until midnight and then transmit an AppleWorks spreadsheet to a remote location. The <wake> command controls this process.

The syntax is:

```
<wake MACRO at HH:MM>
```

where MACRO is the name of the macro you want to start, and HH:MM represents a 24 hour time for the macro to start its operation. For example,

```
<wake sa-Q at 05:00> says
```

“Start macro <sa-Q> at 5 am”.

Note that there is no “sleep” command; <wake> specifies that you want the macro to “sleep” in the background until the time indicated.

# Macro Primer...

Figures 3 and 4 include examples that use the <wake> command.

The macros in Figure 3 show how to use UltraMacros as a alarm clock. You execute macro <sa-a> which issues a <wake> command. <wake> tells UltraMacros to execute macro <sa-Q> at 5 pm (17:00 in 24-hour time). At 5 pm, <sa-q> sounds the bell and displays a message to remind you that it is quitting time.

The macros in Figure 4 use <wake> to issue an Apple-S command to save your work every ten minutes starting at 8 am. Macro <sa-w> sets the values for variables H and M to 8:00 am and puts the <sa-s> macro "to sleep" until that time. At 8:00 am, <sa-s> starts automatically. The <sa-s> macro does an oa-s to save the current file, and then adds 10 (minutes) to the M (minutes) variable. If M is 60, then you are beginning a new hour, and the macro sets the H (hour) variable to the next hour and sets the M (minutes) variable back to zero. This sets the values of the H and M variables to 10 minutes from now. Then the <wake sa-s at H:M> command puts the current macro back to "sleep" for another 10 minutes.

There are times you may want to cancel a "sleeping" macro. You can do this either by using the <nosleep> command inside a macro, or by entering an <oa-ctrl-n> directly from the keyboard. You can use this command even if there is no sleeping macro active, in which case the command does nothing.

## <store> and <recall>

The <store> command captures the first 15 characters stored in variable \$Ø and appends those characters to the current word processor, data base, or spreadsheet file. UltraMacros stores these characters in an area not usually used by AppleWorks, so the characters do not appear on the screen, nor do they affect the operation of the program.

The <recall> command finds those characters in the file and places them in variable \$Ø. You can then manipulate the contents of variable \$Ø as you would any other string variable. When you issue a <store> or <recall> command, UltraMacros dis-

## Figure 5: Macros That Use <store> and <recall> to Link Files

```
N:<all:msg ' Enter Spreadsheet Name ': $Ø = getstr 15 :
    rtn: store>!
```

```
A:<all:oa-Q: esc: rtn: rtn:          { goto Add Files Menu }
    input: rtn:                    { allow user to choose file }
    recall:                        { get linked file }
    oa-Q: esc: rtn: rtn:           { back to Add Files Menu }
    find: rtn>!                    { search for file & load }
```

plays the characters stored or recalled in the bottom right hand corner of the AppleWorks screen.

The fifteen character limit of <store> is not an accident; fifteen characters is enough space to hold a filename. That explains why the most common use of the <store> and <recall> commands is to link two files together.

## How to Link Files

Figure 5 presents two macros that use <store> and <recall> to link files; let me explain these macros:

Imagine that you have a data base file and a spreadsheet file you use together as part of an accounting package. You want the spreadsheet file available whenever you load the data base onto the AppleWorks desktop. The macros in Figure 5 load the spreadsheet onto the desktop automatically whenever you bring in the linked data base file.

To use the macros, enter a <sa-n> with the data base on the screen. The <sa-n> macro asks for the name of the spreadsheet file you want to link to the data base, and attaches that file name to the data base file.

Now you enter a <sa-a> whenever you want to bring both the data base and spreadsheet files onto the desktop. The <sa-a> macro takes you to the Add Files Menu, lets you choose the data base file, loads the data base onto the desktop, checks if there is a linked file, and loads the linked file onto the desktop. You end up with both the data base and spreadsheet available for use.

## <disk> and <path>

The <disk> and <path> commands store the name of the current disk volume or the current pathname in variable \$Ø. These commands only work with the

## Figure 6: Macros That Use <disk> and <path>

```
D:<all:disk: msg $Ø>! { Display Disk name }

P:<all:path: msg $Ø>! { Display full pathname of highlighted file }

F:<all:disk: x=len $Ø: { set X = to the length of the disk name }
  path: y=len $Ø: { set Y = to the length of the full path }
  x=y-x-1: { calculate the filename length }
  $Ø= right $Ø,x: { set $Ø to filename }
  msg $Ø>! { and display it }
```

## Figure 7: Macro That Prints "AppleWorks" in Boldface

```
B:<awp: print chr$ 2 + "AppleWorks" + chr$ 2>!
```

## Figure 8: Macro That Routes <print> to the Printer

```
P:<all: pr# 1 : print " This will print on your printer " : rtn :
  pr# Ø>!
```

AppleWorks File Menu on the screen. The <disk> command puts the current data disk name in variable \$Ø. If you specified the data disk location by slot and drive, <disk> puts the volume name in \$Ø. If you specified the current data disk location by pathname, <disk> puts the subdirectory pathname in \$Ø.

<path> stores the current volume name, subdirectory name, and the highlighted file name in variable \$Ø.

Note that while <disk> and <path> can capture pathnames, <store> only uses the first 15 characters in that pathname. Thus, you must be cautious when using <store> in combination with the <disk> or <path> commands.

Figure 6 presents three macros that use the <disk> and <path> commands. <sa-D> displays the disk or subdirectory location of the file you highlighted on the disk catalog. <sa-P> displays the full pathname, including the filename. <sa-F> displays only the currently highlighted filename.

Note that an UltraMacros bug sometimes causes <disk> and <path> to give incorrect results. This problem is fixed for AppleWorks 3.0 / UltraMacros 3.0 users.

### <clear>

The <clear> command resets all the UltraMacros variables to their default values. That is, it sets

numeric variables A-Z to zero, and string variables \$Ø-\$9 to "" (empty strings). <clear> lets you use a single token to reset all the variables instead of writing a series of individual commands to reset each variable.

Use the <clear> command when you write many compiled macros and want to be certain you reset all the variables to their default settings before beginning a new series of operations. However, you must be cautious about using <clear>; the command resets all variables you used, including those used by a sleeping macro.

You can also use the keystroke <oa-ctrl-x> to clear the variables.

### <print> and <chr\$>

In earlier articles in this series, I described how to use the <print> command to print words and numbers into an AppleWorks document. You know that <print \$Ø> prints the contents of \$Ø at the current cursor position in AppleWorks. Similarly, <print A> converts the value stored at A into text characters and sends it to AppleWorks.

You can also use the <chr\$> command in combination with <print> to enhance your output. For example, a Control-B (the AppleWorks command for Boldface Begin) has an ASCII value of two. So the commands

```
<print chr$2 + "AppleWorks" + chr$2>
```

insert the string "AppleWorks" in a word processor document with the commands for Boldface Begin and Boldface End. [Ed: A complete ASCII conversion chart appears in the March 1989 issue of the *AppleWorks Forum*.] A macro that prints the word AppleWorks in boldface appears in Figure 7.

### <pr#>

The <pr#> command lets you direct where UltraMacros sends the characters it prints. The default setting is <pr# Ø>, which sends the characters to the

AppleWorks screen. Commands of <pr# 1>, <pr# 2>, and <pr# 3> send the output to the first, second, or third printer on your AppleWorks printer list. The macros in *Figures 7* and *8* send the output to the first printer on your printer list instead of the AppleWorks screen.

However, you must be cautious about using <pr#>. First, remember that you need a space between the "pr#" and the number when you type the macro; the correct syntax is <pr# 1>, not <pr#1>.

Second, remember to issue a <pr# 0> command when you are done sending information to the printer. UltraMacros continues to send text and commands to the specified location until you direct UltraMacros to send the output back to AppleWorks.

Although I now use TimeOut ReportWriter, I have written many macros that use the <pr#> command to generate sophisticated reports with headers and footers from the data base and spreadsheet modules.

## <peek> and <poke>

<peek> and <poke> are advanced programming commands that let you look at and change the value stored in memory in your computer. The <peek> command captures the value stored at a location you specify. For example, <z = peek \$7DF0> stores the current value from memory location \$7DF0 into variable z. The <poke> command replaces a value currently in memory with a new value.

<peek> and <poke> are valuable to macro programmers because AppleWorks stores itself in memory during operation. You can learn about the internal workings of AppleWorks by examining what it stores in memory, and you can control the program by changing the code in memory.

*Figure 9* presents several macros that use <peek> to get information from AppleWorks. The first macro (<sa-N>) displays the number on the Desktop Index associated with the current file. AppleWorks stores this information in memory location \$C54.

## Figure 9: Macros That Use <peek>

```
N:<all: x = peek $C54 : { current open file }
    msg ' This is file # ' + str$ x + ' on the desktop '>

G:<all: x = peek $C55 : { number of files on the desktop }
    msg ' There are ' + str$ x + ' files on the desktop '>

J:<all:x = peek $7B23 * 256 + peek $7B22: msg x >!
```

## Figure 10: Macro That Inserts a Space

```
<spc>:<awp: x = peek $10F1 { get current cursor type }
    insert : { go to insert mode }
    spc : left { do a space and move back }
    if x=1 then oa-e: { if cursor was overstrike, issue an <oa-e> }
    :elseoff>!
```

Macro <sa-G> displays the total number of files on the desktop. AppleWorks stores that number in location \$C55.

<sa-J> displays the number of records in the current data base file. This information consists of two bytes stored in memory locations \$7B22 and \$7B23. <sa-J> shows you how to examine two-byte memory locations.

The macro in *Figure 10* demonstrates a practical application of the <peek> command. Macro <sa-spc> inserts a space in a document no matter which type of cursor is active. The macro uses <peek> to save the contents of memory location \$10F1 in variable x (\$10F1 holds the current cursor type; zero is the insert cursor, one is the overstrike cursor). The macro then forces the <insert> cursor mode and enters a space. If the cursor was in overstrike mode before you called the macro, it restores the cursor back to that mode.

The <poke> command inserts a value you specify into a given location. For example, <poke \$C6C,0> pokes the value of zero into memory location \$C6C. A zero in location \$C6C indicates that the current file is "unchanged", so AppleWorks does not warn you the file is changed when you quit the program. Macro <sa-C> in *Figure 11* shows how to use the <poke> command to insert the value zero in location \$C6C. This macro changes the status of the current file to "Unchanged".

The <sa-T> macro in *Figure 12* demonstrates another possible use of the <poke> command. Macro

## Figure 11: Macro That Marks File "Unchanged"

```
C:<all: poke $C6C,0: msg ' Current file is now marked "Unchanged" '>!
```

## Figure 12: Highlight First File on Remove Files List

```
T:<all:oa-Q: esc:      { goto Main Menu }  
    poke $C54,0 :      { clear current file number location }  
    >4<rtn>!           { choose "Remove Files" from Main Menu }
```

## Figure 13: Selected Memory Locations in AppleWorks 2.1

Memory Location	Contents of Location	Which Modules?
\$0C52	data type on clipboard	all
\$0C54	number of current desktop file	all
\$0C55	number of files on desktop	all
\$0C6B	file type of current desktop file	all
\$0C6C	file is changed or unchanged	all
\$0E95	table of numbered menu items (x,y,length)	all
\$10F1	active cursor type	all
\$10F2	cursor visible flag	all
\$10F5	character under the cursor	all
\$7B1B	active report number	adb
\$7B20	data base zoom status	adb
\$7B21	number of categories in this record	adb
\$7B22-\$7B23	number of records in this file	adb
\$7B24	number of reports in this file	adb
\$7C61	word processor zoom status	awp
\$7D88	window status	asp
\$7DF0	spreadsheet zoom status	asp
\$F19	number of printers defined	all
\$FD3-\$FD4	K free on desktop	all

<sa-T> takes you to the Remove Files Menu, and highlights the first file on the list of desktop files, not the current file.

Here is how <sa-T> works:

AppleWorks assigns a desktop index number to every file on the desktop and stores the number of the active file in memory location \$C54. If you go to the Main Menu and say you want to "Delete files from the Desktop", AppleWorks highlights the file that was on your screen last. It remembers that choice by looking at the desktop index number stored in location \$C54.

Macro <sa-T> issues an <oa-Q: esc> to go to the Main Menu and replaces the current desktop index

number stored in location \$C54 with a zero. Next, the macro selects choice #4 ("Remove files from the Desktop") from the Main Menu. A value of zero in location \$C54 tells AppleWorks that there is no active file, so AppleWorks highlights the first file in the list.

### Memory Locations

To use <peek> and <poke>, you need to know the memory locations used by AppleWorks. Figure 13 presents a list of some of the locations for AppleWorks 2.1. Adventurous readers can use <peek> to explore the default entries in these locations and <poke> to determine the impact of changing these values.

Remember that <poke> changes the values in memory, not the AppleWorks program on your disk. When things go awry, reboot your computer to load a fresh copy of AppleWorks back into memory.

### Conclusion

UltraMacros offers us a powerful programming language we can use to enhance AppleWorks. Like all programming languages, there is always more to learn about both the commands and the logic necessary to write useful programs. Given time, practice, and a good deal of patience, you should now be able to write almost any type of macro with UltraMacros.

*[Mark Munz is a programmer with Beagle Bros, publishers of TimeOut UltraMacros.]*





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# News of Interest to AppleWorks Users

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## AppleWorks 3.0

**Beagle Bros:** By the time you read this, Beagle Bros should be shipping AppleWorks 3.0-compatible versions of its TimeOut programs. The updated TimeOut modules work with AppleWorks 2.0, 2.1, and 3.0, and many have enhancements not included in earlier versions of the programs. The enhancements only work with AppleWorks 3.0; you need not update your TimeOut modules until you upgrade to AppleWorks 3.0.

Beagle will provide free updates to anyone who purchased a TimeOut product after May 1, 1989. Return your original disk and dated proof of purchase to TimeOut Update, Beagle Bros, 6215 Ferris Square, Suite 100, San Diego, California 92121.

NAUG members who purchased TimeOut modules prior to May 1 can update to the 3.0-compatible products through NAUG's Beagle Buddies. To update, send your NAUG member number, return address, and original 5.25-inch or 3.5-inch TimeOut disk(s) to Bruce Shanker or Oliver Roosevelt at the addresses listed below. The cost is \$2.50 for the first 5.25-inch disk and \$1 for each additional 5.25-inch disk, or \$3 for the first 3.5-inch disk and \$2 for each additional 3.5-inch disk. Enclose a check or money order in U.S. funds payable to Bruce or Oli (not to NAUG) with your request. Orders shipped outside North America require an additional \$2 per disk for postage.

Send your disks and payment to:

Bruce Shanker, 1279 Boyd Road, Warminster,  
Pennsylvania 18974-2260.

Oliver Roosevelt, Box 303, Fairforest, SC 29336.

Beagle Bros is developing two as-yet-unnamed AppleWorks 3.0-enhancement products for release this fall. One is a customization disk that lets you

modify AppleWorks 3.0. This disk offers many of the patches previously available on the JEM Patch-Mania and Late Nite Patches disks and some additional enhancements. The patches (a) embellish the AppleWorks menus with mousetext characters, (b) let the Enter Key on the Apple IIGS numeric keypad move the cursor down to the next cell in a spreadsheet, (c) bypass all the "Do you really want to do this?" questions, (d) let you set the cursor to insert or overstrike mode at startup, (e) redefine keys so the Apple-Tab key moves back one tab stop, (f) let you put the spelling dictionaries in different directories (in AppleWorks 3.0, the dictionaries must be in the same directory as the program), (g) lock segments of AppleWorks in memory so they are preserved if you work with large data files, and (h) provide a separate graphics clipboard you can use to transfer Graph, Paint, or SuperFonts documents between files.

The second disk will include a collection of UltraMacros development tools and sample macros that work with AppleWorks 3.0. This disk will replace the MacroTools I and II disks and will use the new features of AppleWorks 3.0 and UltraMacros 3.0.

As we went to press in mid-July, Beagle did not have names, prices, or expected delivery dates for these products. We expect to publish additional information about both products in next month's issue of the *AppleWorks Forum*. Both disks will be available at a discount from NAUG.

**Quality Computers:** Quality Computers expects to release an AppleWorks 3.0-compatible version of RepairWorks shortly. NAUG members will be able to update to the new version of RepairWorks through our Beagle Buddies. We will have additional information about this update as work progresses on the project.

**JEM Software:** Randy Brandt recently announced the availability of TaskMaster 3.0. TaskMaster is a development system that lets users create stand-alone macros that operate within AppleWorks. Developers pay a \$250 annual licensing fee for each product they want to distribute. Holders of current TaskMaster 2.1 licenses will receive free updates to TaskMaster 3.0. For more information, contact JEM Software, Box 20920, El Cajon, California 92021.

**NAUG:** NAUG recently started shipping copies of the AppleWorks 3.0 tape prepared by Dr. Warren Williams. We initially held all orders pending final release of AppleWorks 3.0 by Claris Corporation.

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## Other AppleWorks News

**Beagle Bros:** Beagle expects to start shipping TimeOut TeleComm by late September. NAUG will now accept orders for TeleComm at the special member price of \$40.95. (Suggested list price is \$69.95.) As with all back-ordered products, NAUG will not deposit your check or process your credit card charge until we ship your order.

**SuperPatch 5.0:** John Link is now shipping SuperPatch 5.0, an upgraded version of his powerful and easy-to-use AppleWorks patching program. Version 5.0 includes 182 different patches to AppleWorks 2.0 and 2.1 (SuperPatch 5.0 is not compatible with AppleWorks 3.0) and offers enhanced printer drivers for the ImageWriter, Epson FX, and Star Gemini printers. SuperPatch 5.0 costs \$20 from John Link, 3382 Sandra Drive, Kalamazoo, Michigan 49004.

**Free Catalogs:** Two major suppliers of AppleWorks enhancements recently produced new catalogs. For copies, contact:

Quality Computers, 15102 Charlevoix, Grosse Pointe, Michigan 48230; (800) 443-6697; in Michigan: (313) 331-0700).

K-12 MicroMedia, 6 Arrow Road, Ramsey, New Jersey 07446; (800) 922-0401).

K-12 MicroMedia also offers NAUG members a disk with sample files from the company's SchoolWorks package. These are working files, not demonstration versions. (SchoolWorks consists of Apple-

Works word processor, data base, and spreadsheet templates for teachers, administrators, office staff, coaches, and others. Send \$3 for shipping and handling. See the review of SchoolWorks in the *AppleWorks Handbook: Volume Two*.)

**AppleWorks Programmers Association:** Dave Gair and Don Aquilino recently announced the formation of the AppleWorks Programmer's Association (APA), an organization to support developers of commercial end-user products for AppleWorks. The group will help members develop and market products through cooperative advertising programs, by sharing booths at trade shows, and with technical support. For more information, contact Dave Gair at (213) 467-6922 or Don Aquilino at (818) 996-6731, or visit the APA booth (Booth 842) at San Francisco AppleFest, Sept. 22-24.

**The Source and CompuServe:** CompuServe recently purchased The Source and plans to discontinue that service; Source subscribers will automatically receive accounts on CompuServe. To get AppleWorks help on CompuServe or to reach NAUG, issue the command "GO APPLTWO" at any "!" prompt and follow the on-screen menus.

**CompuTask:** CompuTask is shipping version 2.2 of MBE (Message Board Editor), a communications utility that works with AppleWorks and most popular communications programs. MBE lets you capture electronic mail and forum messages from CompuServe, and use AppleWorks to read and reply to the messages while off-line from the service.

MBE 2.2 is compatible with AppleWorks 2.0 and 2.1; an AppleWorks 3.0-compatible version is under development. The program costs \$25 from Dave Gair, 6531 Lexington Avenue, Los Angeles, California 90038-1451.

**AppleLink:** NAUG member Bob Netro offers a series of monthly chats called "Template.Talks" on AppleLink-Personal Edition. Bob suggests you first download the template and directions for each meeting and then attend the chat in the Student Union. The next chat is September 12th at 9P.M. EDT. For more information, contact Bob (as "Bob-Net") on AppleLink-Personal Edition.

# Dictionary Files and Macros in the Public Domain Library

by Brian Theil

**N**AUG recently added four disks to its Public Domain Library. Three disks contain custom dictionaries that work with TimeOut QuickSpell and AppleWorks 3.0. Each disk includes the dictionary, a data base file with the words in the dictionary, and step-by-step directions on how to use the disk. The fourth disk contains 16 UltraMacros macros and directions on how to use each macro.

## Dictionary Disks

NAUG's Nautical Dictionary includes 1,400 naval and nautical terms collected by Bruce Condit, of Carlisle, Pennsylvania. Mr. Condit has more than 46 years experience in the Merchant Marine. Members interested in discussing their nautical interests with an experienced mariner can reach Mr. Condit at (717) 249-4144.

The Public Domain Library's new Biological Dictionary Disk includes more than 3,600 terms compiled and submitted by Dr. Charles Hoyer of Anaheim, California. Dr. Hoyer has 37 years of teaching experience and presently teaches biology at Lutheran High School in Orange, California.

NAUG's library also includes a dictionary for speech pathologists, compiled and submitted by David Stachowski, a Speech and Language Pathologist from Conesus, New York. This dictionary includes 800 technical and professional terms that speech and language pathologists would use in their letters, reports, and papers.

## NAUG's First Macro Disk

NAUG also released MACROS 01, its first compilation of macros for use with TimeOut UltraMacros and AppleWorks. The disk contains sixteen useful macros that (a) make it easier to toggle between indented and non-indented paragraphs in the word processor, (b) do automatic page numbering at the

bottom of every page, (c) display the current macro set as a word processor document, (d) count the number of records in a data base file, (e) move the cursor to any cell in a spreadsheet, (f) print documents without marking the underlying file as changed, (g) print a single page of a word processor document, (h) move between the Main Menu and a specific file with a single keystroke, (i) renumber a column of numbers in the word processor, (j) find and set markers in the word processor, (k) change printouts between single, double, and triple spacing in all three AppleWorks modules, (l) put the name of the current file, the date, and the time at the top of a word processor document, (m) delete the current file from the desktop without asking for confirmation, and (n) save all files on the desktop, remove them from memory, and return you to the Main Menu in AppleWorks.

I want to thank the many NAUG members who continue to submit macros for the library. I have numerous macros to review and plan to add more macro disks to the collection in the near future. In return for their efforts, macro authors receive a free disk from the NAUG Public Domain Library.

You can order these disks from NAUG; each disk costs \$4, plus \$2 s/h per order (orders outside North America require \$2 additional per disk for postage).

## New Public Domain Catalog Available

The Fall 1989 edition of NAUG's Public Domain Library Catalog is now available. This 32-page catalog lists hundreds of templates, fonts, AppleWorks enhancements, and utilities that are available from NAUG. The catalog costs \$5 and includes a rebate coupon worth \$2 on your first order of Public Domain disks. Orders outside North America require \$2 postage per catalog.

# How to Get Help with the AppleWorks Modules

by Nanette Luoma

Each month, the *AppleWorks Forum* lists the member-volunteers who offer technical support for AppleWorks products. This month's list identifies the volunteers who can answer questions about the AppleWorks modules. Next month's issue will contain a list of members who offer help with hardware questions.

## AppleWorks Modules

### How to Use This List

To the left of each volunteer's name are numbers that indicate the AppleWorks modules the consultant supports. Volunteers are listed alphabetically by state.

- 1 = Word Processor
- 2 = Data Base
- 3 = Spreadsheet
- 4 = Integration between modules

	City	Work	Home
<b>Alabama</b>			
1,2,3,4	Rebecca Cathey	Eutaw	205/ 372-3561

<b>Alaska</b>			
1,2,3,4	Ross Lambert	Unalakleet	907/ 624-3161

<b>Arizona</b>			
1,2,3,4	Jeff Cox	Tucson	602/ 297-0308
1,2,3,4	Clay Evitts	Tucson	602/ 885-9787 602/ 296-5491

<b>California</b>			
1,2,3,4	Michael Beebe	San Diego	619/ 224-8823 619/ 221-2363
1,2	Stephen Brewer	San Bernardino	714/ 883-0365 714/ 882-3308
1,2,3,4	Robert Demmon	Coronado	619/ 435-0554 619/ 435-0520
1,2	Donna Ewing	Costa Mesa	714/ 556-3169
1,2	Don Farrar	Pleasant Hill	415/ 932-5509
1,2,3,4	Dave Gair	Los Angeles	213/ 988-0994 213/ 441-6100
4	George Gray	Los Angeles	213/ 774-4131
1,2,3,4	Terry Higgins	Hayward	415/ 887-7499
1,2,3,4	Jane Hsuan	Nevada City	916/ 272-8497
1,2,3	Alan E. Kahn	San Anselmo	415/ 457-9827
1,2,3	Berenice Maltby	Corona del Mar	714/ 640-7369
1,2,3,4	Tom Militello	Rancho Palos Verdes	213/ 541-2766
1,2,3	Will Nelken	San Rafael	415/ 459-0845 415/ 456-1798
1,2,4	Jim Pennington	Long Beach	213/ 420-8629

<b>Colorado</b>			
1,2,3,4	Gary Armour	Littleton	303/ 933-9493
1,2,3,4	Steve Feldman	Denver	303/ 428-6115

	City	Home	Work
1,2,3,4	David Gillaspie	Lakewood	303/ 431-0994 303/ 431-6100
1,2,3,4	Lyle Graff	Littleton	303/ 794-5970 303/ 977-4557
3	Harry McMillen	Littleton	303/ 795-5510
1,2,4	Carol McPeck	LaSalle	303/ 284-5508
1,2,3,4	Larry Thaele	Boulder	303/ 939-9072 303/ 492-2717

<b>Connecticut</b>			
1,2,3,4	Martin Knight	Middletown	203/ 346-9698
1,2,4	John R. Robinson	Niantic	203/ 739-7435
1,2,3,4	Emery Roth	Washington	203/ 868-7118
1,2	Newton Shaffer	Gales Ferry	203/ 464-9716

<b>Florida</b>			
1,2,3,4	John Andrianoff	Ft. Pierce	305/ 466-6653
1,2,3,4	H. Clay Bailey III	Jacksonville	904/ 744-2499 904/ 725-3477
1,2,3,4	Ann F. Bennett	Orlando	407/ 843-0545
1,2,3,4	Steven H. Smith	Dade City	813/ 896-6799
1,2,3,4	Thomas Stanius	Opa Locka	305/ 624-6162 305/ 375-2095
1,2,3,4	Jeff C. Strichard	Ft. Lauderdale	305/ 587-9590 305/ 763-3883

<b>Georgia</b>			
1,2,3,4	Jim Sulsona	Doraville	404/ 455-0853

<b>Illinois</b>			
1	Michael Artery	Clarendon Hills	312/ 986-1128
1,2,3,4	Sharon DeKirmandjian	Libertyville	312/ 680-1974
1,2,3,4	George Duffy	Bloomington	312/ 894-0849
1,2,4	J. Terry Flynn	Lake Bluff	312/ 234-2820 312/ 680-0980
1,2,4	Connie Peters	Decatur	217/ 429-6242 217/ 875-2431
1,2,3,4	Dennis Ricke	St. Charles	312/ 377-4829 312/ 377-4829
1	Walter Schillinger	Oak Park	312/ 386-2278 312/ 451-3000
1,2,3,4	Bowen Schumacher	Winnetka	312/ 501-3314 312/ 546-0633
1,2,3,4	Michael Warner	Glenn Ellyn	312/ 469-2543 312/ 790-0330
1,2,3,4	Victor Weisskopf	Lincolnwood	312/ 674-7400

<b>Indiana</b>			
1,2,3,4	Stanley Boler	Knightstown	317/ 345-5663
1,2,3,4	Brenda Crenshaw	Shelbyville	317/ 398-0525 317/ 264-1286
1,2,4	Irvin Haas	Carmel	317/ 848-0050
1	Mark Hochstetler	Indianapolis	317/ 299-3156 317/ 783-8821

<b>Iowa</b>			
1,2,3,4	Roger Christian	Iowa City	319/ 338-7350 319/ 337-2189
1,2,3	Dan York	Marion	319/ 373-1883 319/ 373-2083

<b>Kansas</b>			
1,2,3,4	Dick Fogliasso	Girard	316/ 724-4590 316/ 724-4330
1,2,4	Jan Laughlin	Mapleton	316/ 743-3441
2,3	Marcia Philbrick	Seneca	913/ 336-3645 913/ 336-3557

# AppleWorks Modules...

	City	Work	Home
<b>Kentucky</b>			
1,2,3,4	Rosalie Lasee	Richmond	606/ 622-1986

<b>Maryland</b>			
1,2,3,4	Ron Jacobs	Laurel	301/ 498-0558 301/ 725-3228
1,2,4	Morgan Jopling	Crofton	301/ 721-7874
2	David Ottalini	Silver Springs	301/ 681-5792
1,2,3,4	Ronald Romanowicz	Glencoe	301/ 472-2983 301/ 472-4800
1,2,3,4	Michael Spurrier	Baltimore	301/ 298-0263 301/ 955-5938
1,2,3,4	Woodrow Webster	Fallston	301/ 879-7034 301/ 887-0171

<b>Massachusetts</b>			
1,2,3,4	Robert Lanouette	New Bedford	508/ 996-3061
1,2,3,4	Pamela Michaelson	Marblehead	617/ 631-0918
2,3	Richard Nash	N. Reading	617/ 664-5400
1,2	Jeff Welsenfreund	Newton	617/ 965-028

<b>Michigan</b>			
1,2,3,4	Dawn Andrews	Muskegon	816/ 755-4308
1,2,3,4	Jim Anker	Hazel Park	313/ 391-0030 313/ 542-3910
1,2,3,4	Quality Computers	Grosse Pointe	313/ 331-0700 313/ 331-1115
2,3,4	Joe Connelly	Livonia	313/ 421-8729
1,2,3,4	Arthur Daniel	Warren	313/ 445-7105 313/ 445-7142
1,2,3,4	Jane Harris	Grand Rapids	616/ 458-2653
1,2,3	Lynn Leininger	Monroe	313/ 241-4021
1,2,3,4	Bill Neef	Grass Lake	517/ 522-4689
1,2,3	J. O'Connor	Rochester	313/ 853-1260
1,2,3,4	Mike Robinson	Royal Oak	313/ 585-5027
1,2,3,4	Pete Ross	Wayne	313/ 728-8720
1,2,3	Brian Theil	Taylor	313/ 287-4608
1,2,3,4	Richard Zajac	Mt. Clemens	313/ 465-2615 313/ 465-5040
1,2,3,4	Keith Zook	Grosse Ile	313/ 675-1550

<b>Minnesota</b>			
1,2	Norman. Hecimovich	Austin	507/ 437-4245 507/ 437-3425
1,2,3,4	James Hirsch	Coon Rapids	612/ 421-8393 612/ 422-5572
1,3	Dick Kerfield	Hopkins	812/ 938-4382
1	Penelope Krosch	Stillwater	612/ 436-5405

<b>Mississippi</b>			
1	Bill Brescia	Union	601/ 656-5251 601/ 774-5809

<b>Missouri</b>			
1,2,3,4	Whit Crowley	Manchester	314/ 394-7955
1,2,3	Lynn Leopard	Chillicothe	816/ 646-4196 816/ 646-0702

<b>Montana</b>			
1,2,3,4	Steve Bembaum	Shepherd	406/ 373-6393
1,2,3	Esther Hamel	St Ignatius	406/ 745-4455
1,2,3	Bob Shippek	Great Falls	406/ 452-9104 406/ 791-2130

<b>Nebraska</b>			
1,2,3,4	Larry B. McEwen	Hastings	402/ 463-2267 402/ 463-1387

<b>Nevada</b>			
1,2,3,4	Jon S. Greene	Sparks	702/ 359-3266 702/ 825-9251

<b>New Hampshire</b>			
1,2,3,4	Chris MacLeod	Concord	603/ 224-0520

<b>New Jersey</b>			
1,2,3,4	Pete Crosta	Nutley	201/ 667-6369 201/ 677-4050
2	Edwin C. Doe	Pt. Pleasant	201/ 528-6349
1,2,3,4	David Edwards	Camden	609/ 365-1359 609/ 966-6767
1,2	Matthew Jones	Neptune	201/ 774-0983
1,2,3,4	Link Keur	Augusta	201/ 875-2568 201/ 992-7000
1,2,3	Linda Nixon	Chatham	201/ 635-0973
1,2	Stuart Schneider	Teaneck	201/ 261-1983 201/ 568-3338
1,2	David Jay Scott	Wall	201/ 681-0600

<b>New Mexico</b>			
1,2,3,4	George, Jr. Willis	Albuquerque	505/ 897-4886 505/ 883-9743

<b>New York</b>			
1,2,3,4	Bob Beer	Coram	516/ 928-8870
1,2,3,4	Michael Bice	Garden City	516/ 741-7800

	City	Home	Work
2	Fred Brothers	New York	212/ 732-7072
1,2,3,4	Linda Doscher	West Nyack	914/ 358-7064
1,2	Cynthia Gillmore	Johnstown	518/ 762-8483 518/ 725-4016
1,2,3,4	Sister Mary Gregory	Watertown	315/ 782-3460 315/ 788-4670
1,2,3,4	Don Menges	Rochester	716/ 544-9388
1,2	Harold S. Miller	Ozone Park	718/ 641-5208
1,2,4	Betty M. Minemier	Dansville	716/ 335-6258 716/ 335-3186
1,2,3,4	James Nicoll	Pittsford	716/ 381-8480 716/ 546-6732
1	Quentin Packard	Troy	518/ 273-8867
1,2	Lois Silverman	New Hartford	315/ 793-3151
1,2	Ken Silvo	Rochester	716/ 244-1912
1,2,3,4	David Strachen	Buffalo	716/ 832-8869 716/ 634-8238
1,2,3,4	Jerry Taylor	Hilton	716/ 964-3319 716/ 964-3587
1,2	Walter Taylor	W. Henrietta	716/ 359-2857 716/ 263-7700

<b>North Carolina</b>			
1,2,3,4	Terry W. Robertson	Charlotte	704/ 536-4261 704/ 377-0111

<b>Ohio</b>			
1,2,3,4	Mark Ball	Paris	218/ 862-3277 216/ 627-7606
1,2,3,4	Jessie Beale-Hansen	Cinti	513/ 751-6834 513/ 241-6400
1,2,3,4	William Beasley	N. Olmsted	216/ 933-4408 216/ 777-7700
1	Mark Elliot	Hudson	216/ 653-5006 216/ 686-2280
1,4	Camman Greco	St. Clairsville	614/ 695-5026
1	Florence Hoechstetter	Columbus	614/ 231-3992
1,2,3,4	Guy R. Moore	Oxford	513/ 523-3797 513/ 529-7584
1,2,3,4	Howard Moskowitz	Toledo	419/ 535-8647 419/ 729-8412
1,2,3,4	Robert Netro	Canton	218/ 477-3667 216/ 477-3667
3	Bill Ries	Cincinnati	513/ 941-7933 513/ 941-7831
1,2,3,4	Patricia Ritchey	Bowling Green	419/ 673-0040 419/ 372-7038
1,2,3,4	Matiwynne Winton	Stockport	814/ 559-2818

<b>Oregon</b>			
1,2,3	Calvin Behrens	West Linn	503/ 636-0762 503/ 655-0058
1,2,3,4	Jim Emig	Portland	503/ 771-1918 503/ 280-5666

<b>Pennsylvania</b>			
1,2,4	David Chesebrough	Sewickley	412/ 241-5129
1,2,3,4	Martin Friedman	Philadelphia	215/ 473-6137
2	John Nied	Danville	717/ 275-4111 717/ 275-4111
1,2,3,4	Joel Perlsh	Havertown	215/ 789-7873
1,2,3,4	Don Pratt	Bloomsburg	717/ 389-4639

<b>Rhode Island</b>			
1,2,3,4	Robert J. Ricard	Cranston	401/ 781-5202

<b>South Carolina</b>			
1,2	Oliver Roosevelt	Fairforest	803/ 574-1104 803/ 576-1270
1,2	Charlotte White	Union	803/ 427-1389

<b>Tennessee</b>			
1,2,3,4	M.F. Overton	Knoxville	815/ 522-2113
1,2,3,4	Major Michael Sutter	Clarksville	502/ 552-0973 815/ 798-8203

<b>Texas</b>			
1,2,3	Richard Buro	Temple	817/ 778-0386
1,2	Martha (Polly) Davis	Baytown	713/ 422-7560
1,2,3,4	Ron Franzetti	Carrollton	512/ 416-8702
2	Jeff Holcomb	Carrollton	817/ 465-7978
1,2,3	Joseph Kline	Lubbock	806/ 796-0829
1,2,3,4	Ralph Logan, Jr.	Fort Worth	817/ 281-0661
1,2,3,4	Bob Oberholtzer	Houston	713/ 664-1795 713/ 664-2011

<b>Vermont</b>			
1	Lars Baris	Essex Jct.	802/ 878-1392

<b>Virginia</b>			
1,2	Warren Downes	Yorktown	804/ 898-1881 804/ 898-8386
1,2,4	Tiny Laster	Hampton	804/ 786-3969
1,2,3,4	Pete Pfeiffer	Herndon	203/ 432-1900
1,3	William W. Sanderson	Merrifield	703/ 352-1568 703/ 820-8550

<b>Washington</b>			
1,2,4	Thomas Chambers	Fox Island	206/ 549-4114
1,2,3	Nancy Langlow	Redmond	206/ 868-7254 206/ 455-6052
1,2,3,4	John R. Lind	Mercer Island	206/ 232-6631



# AppleWorks Modules...

		City	Home	Work
<b>Wisconsin</b>				
1,3	Donald Chase	Omro	414/ 685-5681	
1,2,3,4	Peter Lee	Milwaukee	414/ 344-6807	414/ 963-6180
1,2,3,4	Jerry K. Miller	Milwaukee	414/ 425-0778	414/ 321-3820
1,2,3,4	Mike Starck	Milwaukee		414/ 545-5233
2,3,4	Paul Van Wyk	Appleton	414/ 739-6503	414/ 731-0941
<b>Australia</b>				
1,2,3,4	Ralph Morgan	Flynn	075/ 369353	61 75 3693521
<b>Canada</b>				
1,2,3,4	Jean-Guy Mariage	Shannon	418/844-2932	
1,2	Brian Scully	Kitchener	519/ 744-2064	
<b>Mexico</b>				
1,2,3,4	Harve Thorn	Mexico City		905/ 516-0720



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The seminars, modeled after NAUG's popular "AppleWorks: Beyond the Basics" presentations, are scheduled on September 21 and 23. For additional information, contact AppleFest at 1-800-262-FEST.